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CONTRIBUTORS

The Honorable Gifford Pinchot ("How Conservation Began in the United States") is too well known to require introduction. Outstanding among the contributions of his public career are his directorship of the forest work of the United States Department of Agriculture from 1898 to 1910 and his terms as governor of the Commonwealth of Pennsylvania during 1923–27 and 1931–35. The article here printed is of unusual interest because of his preeminent leadership in the conservation movement.

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HOW CONSERVATION BEGAN IN THE UNITED STATES

Conservation grew out of forestry, as many of you know.[1] In a very real sense, conservation is the application of the forester's point of view; and since forestry produced the conservation policy and reflected the phases through which the Nation passed in the handling of its natural resources, I shall first talk of how forestry came to America, and then of how the forester's point of view developed into conservation.

The forester is engaged in work of which the full results will not appear during his lifetime. Some may appear, it is true, but usually the major results will not show until after the man who laid the foundation is dead. Therefore the forester naturally must look ahead. That is the essence of his profession.

We must remember also that the forest is a crop. Using the word "agriculture" in its broad sense, a forest is an agricultural crop. Forestry then is a way of producing crops of wood from the soil, and therefore is tied up with the production of all other crops.

Now you can think of conservation in two different ways. You can either say that conservation is "as old as the hills," or you can say that it began thirty years ago. Both are true. Long before 1492 "when Columbus sailed the ocean blue," certain Indian tribes in America had actually begun to practice conservation. They had divided up their hunting grounds into family-sized portions. If an Indian of another family, in traveling through a family unit, had to kill game to eat, he delivered the hide to the family that owned the land. In some cases it was an offense punishable by death if an Indian trespassed on land assigned to another family.

The essential point is that each family very carefully refrained

[1] The address before the session of the annual meeting of the Agricultural History Society which was held at the Washington, D. C., home of the Honorable and Mrs. Gifford Pinchot on April 15, 1937.

from killing any more game than would be produced annually on its own particular tract of land. Under this plan the land produced a permanent supply of food, and, barring geological changes, each family of Indians could go on indefinitely living off their land. Barring forest fires and such accidental happenings, the land would produce about as much game one year as another. The Indians had discovered the principle of conservation.

When the white man came, the picture changed very rapidly. He found the country overflowing with the richest kind of natural products waiting only to be harvested, and he proceeded to harvest where he had not sown. His conception of dealing with the game was based on the general idea that here was plenty, and all he had to do was to take it. In England game had been a very carefully protected resource, but when the colonist came to this new country he felt that he could kill all that he liked, whenever he liked, and that was precisely what he did.

Curiously enough this same attitude of free exploitation was not applied to the forests. The colonists came over from England with the idea of forest conservation firmly in their minds. The forest had been protected in the old country. They proceeded to protect it in the new land. Moreover, the English wanted wooden masts for their vessels. Shortly the colonists began to run into a scarcity of wood—not because there was none in the country, but because of the difficulties of transportation. For a time the story of the colonists abounds with instances of laws passed for the protection of the forest.

There was another point of view also. The forests often harbored hostile Indians, they separated the colonists from one another, they were dark and dangerous, and they interfered with the use of land for crops. So gradually hostility to the forest grew up in the minds of the early settlers. Although out of the forest came the basis for most of their simple industries and their means of life, out of it also came the threat of death, and after a time the facts of their existence led the colonists to hate the woods. Forest destruction seemed no longer a reprehensible thing.

This attitude, of course, lasted long after the actual justification for it had disappeared. The reasons were valid enough at the time. However, when the need came for a change, it was first in the facts and very much later in the minds of the people.

Still there were evidences of interest in conserving the forests. In 1797 a New York agricultural society undertook to awaken popular opinion on the question of forests. Noah Webster was a very strong friend of forest preservation. He talked about it a great deal and left many interesting quotations.

Then the United States began to take action. In 1822 a reservation was made of certain live-oak timber in the South. This was a measure for the preservation of raw material for naval ships; nevertheless, it indicated an interest in the forest question. Fifty years later New York established a park commission of which Horatio Seymour was chairman. People began to consider the preservation of the forests, with no thought at all, however, of continuing the lumber supply of the Nation. Agitation was confined to a comparatively small number of people, for there was a tremendous surge of exploitation in this country.

In 1873, three years before the Centennial of the Nation, the American Association for the Advancement of Science took a step which first led the Government to show a practical interest in the forests and in forest preservation. It addressed a memorial to Congress and sent a message to the President, which resulted, three years later, in the appropriation of the great sum of $2,000 per year for forestry.

Franklin B. Hough took charge of the work. His business was to collect statistics and diffuse information regarding the woods. He published three volumes of rather useful facts, but all of them were outside of the present field of forestry. In 1886, B. E. Fernow came to be head of the Division of Forestry. Before that, in 1875, the American Forestry Association had been founded.

I want to make the point here, that the American Forestry Association, the American Forest Congress, and all the forest

agitation and literature of that time, were altogether outside the field of forestry as we know it now. I am not trying in any way to detract from the value of the work of these early pioneers. Very much to the contrary. They were starting a new thing under conditions which were especially difficult, and they did not know what forestry was. How could they? There was none in this country.

For years the agitation in the United States centered around two points. One was tree planting on the treeless plains of the West. Great progress was made in that line. Large numbers of trees were planted in Minnesota and other States, but tree planting alone is not forestry.

The other point was the indirect influences of the forest. Whenever half a dozen people got together in those days to talk about forestry, they discoursed on the effect of forests upon climate, streamflow, and rainfall. But the idea of a continuous succession of forest crops was outside the field of practical politics.

When my father, who had seen forestry in Europe, suggested forestry as my profession, there was no place in the United States where it was taught. I could not find a single American book which dealt with forestry, as we know it today. There were books on forest botany, forest distribution, and so on, but not on handling the forest crop. I remember asking Professor C. S. Sargent, one of the leaders of forest agitation at the time, why he had omitted all the things that the professional forester would want to learn from his monumental work on American trees. His answer was that he had put into the book all that there was to know.

In the seventies and eighties, nevertheless, there was a movement toward what the people who backed it thought was forestry. The New York Forest Preserve was created. California established a forest commission. Colorado put something about forest preservation in its constitution. Ohio took the matter up, and I think the Pennsylvania Forestry Association had also been founded by that time.

There was a good deal of talk about forestry here and there

in newspapers. When I got back from abroad in 1890, the situation as I saw it then, and as I see it now, was that forest agitation had not yet reached the stage anywhere in the United States of promoting practical forestry in the woods. Perhaps the best illustration I can give is a quotation from the New York State Forest Commission's report of 1886. It stated the facts precisely as I knew them at the time:

> Those who understand the science of forestry as it exists in Europe, and are familiar with the methods that obtain and the character of the foresters employed there, need not be told that at the present time it would be equally as vain to endeavor to employ the methods of European forest science for our State purposes, as it would be to try to find the ideal European educated forester in the North Woods.

Nobody seemed to think that forestry was practical, except my father. Sargent advised me against going into it, and many others did likewise. Forest botany had made much progress, but American forestry was still in the egg. And in the meantime, the most rapid and efficient example of forest devastation known in the world was getting under way. American lumbermen developed great skill in handling timber, and a perfect orgy of forest destruction began in the United States.

It was rather as if a hand car—and not a gasoline-operated hand car either—were chasing a great locomotive down the track, and falling farther behind every minute. We were talking forestry, but all the time forest devastation was moving ahead far faster than anything that was done to stop it. In fact, there was never a more complete illustration of the fly on the wheel than the forest reformers at the end of the last century, just when the most active and energetic forest devastation of all time was going on.

A tremendous urge to get rich possessed our people. Those were the days when to be rich was proof of virtue. Perhaps it is not regarded in the same light just now. There was a fury of development abroad in the land. The American Colossus was fiercely at work turning natural resources into money. What talk there was about forest preservation was no more effective than the buzzing of a mosquito, and about as irritating to the

promoters. People who talked about forestry were utterly outside the stream of common thought.

There were things to be said, however, on the other side. The little hand car was getting up more speed. In 1891 the first forest reserves were created, but without any provision for their protection and without any authority to practice forestry on them. They were just set aside out of the reach of the developers, in theory if not in practice.

There was another part of the picture which ought not to be forgotten,—the public land laws of the United States. Some of these laws were excellent, like the Homestead Law passed under Lincoln, and some were thoroughly bad, like the Timber and Stone Act of 1878. These laws were administered by the General Land Office in Washington. Almost without exception the Secretaries of the Interior and the Commissioners of the General Land Office had the idea that their duty was to get rid of the land. "What shall we do about the timber? Get rid of it." That was the common attitude.

The amount of fraud in the administration of land laws was almost incredible. It went from one end of the system to the other. Take this one case. A man had taken a contract to survey public lands. The contract required that at each corner he should set in the ground a stake of the best available timber, charred at the end. So he stuck a burnt match at each corner and swore that he had fulfilled the contract.

I have seen desert claims, for another instance, where the law required that water be brought on the land. So the claimant put a couple of his friends in a wagon and took along a barrel of water. Then he emptied the water into a dry ditch, consisting of a single furrow; the friends swore that water had been brought on the land; and the title passed to the thief.

Another striking illustration. Train loads of school teachers and other respectable people from the Middle West used to be given free excursions to the marvelously rich redwood lands in California. Each was taken into the forest and told, "This is your quarter section." The visitor swore that he was taking up the quarter section under the Timber and Stone Act for his

own use; the next minute he deeded it over to the lumber company which ran the excursion; the company paid $2.50 an acre for 160 acres of the most valuable timberland on earth; and all that the Government did was to hold the bag. It was highly respectable in those days to steal from the Government. It was not until Theodore Roosevelt, through his Public Lands Commission, showed up what was going on, that there was any change in the situation.

I came back home in 1890. The next year I tried to get some idea of what was going on, and went West. In 1892 I had the great luck through Frederick Law Olmsted of getting charge of the woodland on George Vanderbilt's property in North Carolina. That was the first piece of systematic forestry in the United States.

Part of the common misconception about forestry was that forest fires could not be checked. The idea was that they were acts of God and just had to be. No one, for example, ever expected to see the top of Mount Hood in the summertime because it was always hidden in a cloud of smoke from forest fires. Even Major J. W. Powell, Director of the Geological Survey, told in a magazine how he had set fire to a tree just to see it burn, and how the fire went roaring off over the mountains. Evidently it never occurred to him that setting forest fires was not all right.

Systematic forestry in America began in North Carolina on private land in 1892. Our present public interest in practical forestry had its start in 1896 when Hoke Smith, Secretary of the Interior, asked the National Academy of Sciences to tell him what ought to be done with the national forest reserves and the public forest lands. Its Forestry Committee recommended to President Cleveland the creation of 22,000,000 acres of new forest reserves. Cleveland did so. The West went wild. This action, affecting nearly every State west of the Great Plains, was taken without notice or explanation, and the Western people believed that these millions of acres were going to be closed to further development. There was a big fight; the reserves were saved; and in the end this action of the Forest Commission

made forestry for the first time a really important national question.

The next year, 1898, the Government started to introduce practical forestry in the woods. Instead of mere exhortation and viewing with alarm, the Division of Forestry of the Department of Agriculture offered to show timberland owners on the ground how to handle their lands for a second crop. That was a new thing in America.

At that time the administration of the national forest reserves was in the Department of the Interior, and all of the trained foresters were in the Department of Agriculture, entirely separated from the reserves. We worked for seven years to get the public forests and the foresters together, and finally succeeded in 1905.

The forest was not the only natural resource with which the American people, through their Government, were obliged to deal. Water, soil, grass, minerals, and the questions to which they gave rise, like erosion and irrigation, water power and navigation, coal and oil, were becoming critically important. Something had to be done about every one of them, but each was being dealt with as though it stood alone, with little or no relation to the others.

I was riding my old horse Jim in Rock Creek Park one day—I think it was in February 1907—when suddenly the idea that put the stone on the end of the club occurred to me. The idea was that all these natural resources which we had been dealing with as though they were in watertight compartments actually constituted one united problem. That problem was the use of the earth for the permanent good of man. We had been dealing with our continent piecemeal, and of course we were losing an immense amount of steam and effectiveness by acting as single scouts scattering our efforts—like using bird shot instead of a single ball to kill a bear—and not attacking the problem in a united battalion.

The idea was so new that it did not even have a name. Of course it had to have a name. Our little inside group discussed it a great deal. Finally Overton Price suggested that we should

call it "conservation" and the President said "O.K." So we called it the conservation movement.

The Nation was, of course, still in the midst of its tremendous rush of exploitation. Starting the conservation movement could not change that. Nevertheless, the hand car had begun to catch up with the locomotive. A number of really active associations in different parts of the country were vigorously concerned with the wise development of some one resource; and in particular, there was the Mississippi Valley Inland Waterway Association. This was an organization of Saint Louis business men whose object was to have the Mississippi River made navigable. They were very influential and very active, and they asked President Roosevelt to sail down the Mississippi with them and look things over. So in the fall of 1907 there went down the Mississippi a flotilla of old-style steamboats—boats which could navigate on a heavy dew, as the saying went—with T. R. on board, and also a lot of governors and officials and business men. It was a great procession. It made a great fuss, and it produced great results.

At Memphis a little group of us, W. J. McGee, F. H. Newell, and others, were talking about what should be done about the whole thing, and Newell suggested that the President ought to call a conference. That suggestion developed into the meeting that put the conservation policy on the map. For the first time in the history of the United States, the Governors of all the States and Territories—I think they were all there but three—were called together at the White House. In addition, the President invited certain distinguished citizens and all of the Congress and the Supreme Court. The conservation policy was laid before this august gathering, and through it, before the American people. That was the purpose of the meeting.

I know of no similar instance where a great new idea was introduced to the public in so short a time. At the beginning of the week hardly anyone knew what conservation meant, and by the end nearly everyone knew. At first everybody was for conservation. It was a fine new idea. We must not waste our coal. We must develop our power. We must conserve our timber. But when we undertook to apply the principles so easily and generally approved—then the fight was on.

The Forest Service had been applying the conservation policy in the national forests, and had run into the most vigorous kind of war with the big interests which controlled the West. That fight was bound to spread.

It must be remembered that monopolistic control was infinitely more potent in the West in those days than in the East. We had come to regard the West as a place where "men were men" and everybody was free, in spite of the fact that the big fellow had control of the little fellow to an infinitely greater extent west of the Father of Waters than east of it. So when we started to make the conservation policy work, there was fighting all along the line.

But T. R.'s term ended very soon after he had launched the conservation policy, and Taft followed him. Taft had given his word to carry out T. R.'s conservation policy. I heard him do it. But instead he "carried it out on a shutter," as the slang of that day had it.

The Ballinger-Pinchot fight centered around the effort of the Morgan-Guggenheim syndicate to get control of coal lands in Alaska. I did the best I could to stop that raid, and as a result I was fired. That fight, in addition to whatever effect it may have had on Taft's reelection, nailed down in the minds of the American people what this conservation business was all about. From that time on the idea stood so high with our people that each succeeding administration has tried to take credit for its discovery and development.

Conditions change and we must change with them. The application of the conservation principle necessarily moves in different directions as one or another problem becomes more or less important. Now, for example, we have the enormous problem of the wasting away of our soils. Dr. H. H. Bennett tells me that about one quarter of our fertile soils have already gone down the streams. While we were keenly alive to the erosion problem back in 1908, nothing like this had happened, and measures that are necessary now were not needed then.

That is true not only of the question of erosion but of the question of forests. Three fourths of our forests are still in private

hands. The destruction of privately owned timberlands is going ahead almost as fast as ever. The practice of forestry on private lands is still insignificant. We have saved a large area for national forests. We are getting more and more state forests. We have a public consciousness of forestry and conservation such as we have never had before. But the fight is by no means won.

One more thing I want to put before you,—the very serious threat to the forest interests of the United States, and particularly to the Forest Service, contained in the Brownlow Report on the reorganization of the Federal Government. Many of its recommendations are excellent but certainly not the one which suggests that responsibility for forestry on private lands should remain in the Department of Agriculture, while responsibility for forestry on public lands should be transferred to the Department of the Interior, renamed the Department of Conservation. That would split the Government work relating to forestry in two. It would be most unfortunate from every point of view. Furthermore, it would divide and disorganize the Soil Conservation Service and the Biological Survey in the same way. It would tend to create in effect two Departments of Agriculture and two Departments of Conservation, which is ridiculous.

The fact is that all the Department of Agriculture deals with is conservation, and even then it cannot cover the whole field. No one Department can. In its broad sense conservation applies to the handling of almost every human problem. Every State and Federal department deals with conservation. To accept the recommendations of the Brownlow Report would ruin the Forest Service, and be infinitely harmful to the Department of Agriculture. The proposed transfer of the Forest Service is wrong all the way around the clock.

GIFFORD PINCHOT

Medford, Pennsylvania

THE DESERT LAND ACT SINCE 1891

The irrigation boom of the late eighties was based purely on speculation, and, for various reasons, it began to subside during the last decade of the century. The failure of Baring Brothers in 1889 stopped the English and Scotch investments in American irrigation enterprises, while at the same time, the overstocking of the ranges and the generally poor condition of the cattle industry prevented their development. More important, perhaps, were the economic and legal difficulties involved. When a company built a reclamation project, the usual procedure was to complete it quickly and cheaply in order to bring in revenue as soon as possible. The weirs were often constructed of cheap wooden framing, and in many places, especially California, the water was taken directly from streams by an inlet without either dam or diversion weir.[1] The result was that the cost of maintenance soon forced the company into bankruptcy.

The legal difficulties of irrigation have become notorious and not without reason. The diversity of water rights in the various States could not result otherwise. In California, the attempt to settle the question by the passage of the Wright District Irrigation Law only resulted in more litigation than ever. One student of the subject declared that defending water rights against later appropriators often cost an individual as much as the construction and maintenance of his entire system, not to speak of the resulting civil wars and ill feeling.[2]

Added to these difficulties was overexpansion, a condition which few people realized at the time. Theoretically speaking, in the era of the open frontier, every unemployed or discontented laborer was a potential farmer, but in the arid country this was not the case. Irrigation necessitated capital, and although the

[1] U. S. Geological Survey, *Annual Report* (1891–92), 13 (3):117–118.

[2] S. Fortier, "The Prevention of Water Right Litigation," *Irrigation Age*, 14:83–89 (December 1899).

lure of big profits had caused rapid development prior to 1890, the supply of irrigated land was greater than the number of settlers who wanted it.[3] Irrigation had for the time being reached the saturation point.

Nevertheless, it is perhaps fairer to say that no one factor produced the maladjusted condition of irrigation in the various parts of the country. Certainly, the fluctuations were not due to the Government's land policy. If anything, the situation was just the opposite, for the coming of the Harrison administration brought a reversal of the Cleveland policy of fraud investigation. In his first annual message, President Harrison referred to the fact that the preceding administration had held up the granting of titles and used unusual methods of examination with fatal consequences to the settler. He declared that it would be his policy not to impute fraud without reason and that the laws would be so administered as to bring penalties only upon those who were obviously violating the intent of the law. Thus, by December 1, 1890, he was able to say in his second message that under his policy the average monthly issue of agricultural patents had increased about six thousand.[4]

Whether or not the Harrisonian policy was the cause, the original entries under the Desert Land Act showed no violent drop, except in California, in spite of the curtailment of irrigation which began about 1890. In Idaho, Montana, Utah, and Wyoming, the major irrigation States under the act, there was an increase in the number of entries.[5] With the second Cleveland administration, the entries again fell, this time perhaps due primarily to the panic as the number of cases held for investigation were comparatively few. In 1893 only thirty-one original entries and eight final entries under the Desert Land

[3] Thus the *San Francisco Chronicle* of Jan. 3, 1897 gives two full pages in a discussion of irrigation in California and expresses the view that the reason for irrigation stagnation was the over-expansion of the irrigation industry. On the whole, this view seems to have been well founded.

[4] U. S. President, *A Compilation of the Messages and Papers of the Presidents, 1789–1897*, . . .by James D. Richardson, 9:49, 117 (Washington, 1898).

[5] U. S. General Land Office, *Annual Report*, 1889:252, 1890:318. Hereafter cited as *G.L.O.R.*

Act were held, pending investigation.[6] In 1894, 1895, and 1896, the original entries held for investigation jumped to over a hundred per year with the final entry investigations limited to nine, twenty, and twenty-two for the respective years.[7] The total number of cases pending investigation under the various land acts averaged around two thousand, an insignificant figure when compared with the total number of entries which would normally come under such investigation.

The turn of the century brought an increased interest in irrigation. The activities of the National Irrigation Association, organized to promote interest in government construction of irrigation projects, aided by the return of prosperity and the renewed use of money in speculation, were primary factors in the revival. The Carey Act of 1894 which reserved lands for States also began to be utilized. Irrigation was recognized for the first time by the two political parties, and even President Theodore Roosevelt gave it his support.

More clearly than any other president, Roosevelt realized the needs of the arid region.[8] Having gone to Dakota during the boom of the eighties, he knew the needs of the cattle industry from first-hand contact and had witnessed the failure of the more optimistic settlers who tried to farm without irrigation. When Roosevelt came into office, he gave attention to the needs of the West. He urged that the Government build irrigation projects, and during his administration the Newlands Act was passed. He formulated a conservation policy, and under the direction of Gifford Pinchot, much was accomplished. He instigated an investigation of the public lands situation, and in consequence, a commission was appointed to investigate the public land system in 1903. The commission, composed of F. H. Newell, director of the Reclamation Service, Gifford Pinchot, director of the Bureau of Forestry, and W. A. Richards, Public Lands Commissioner, began its work with avidity. Each mem-

[6] *Ibid.*, 1893:68.

[7] *Ibid.*, 1894:91, 1895:401, 1896:370.

[8] E. D. Ross, "Roosevelt and Agriculture," *Mississippi Valley Historical Review*, 14:287–310 (December 1927).

ber was interested in one particular phase, and each approached the problem with more or less definite knowledge of the situation.

Meanwhile, with the turn of the century, the number of entries under the Desert Land Act increased by leaps and bounds. With the exception of Utah, all of the States and Territories under the act showed a marked increase in the number of entries during the first few years. California jumped from eighty-two entries in 1900 to three hundred and forty-nine in 1901. By 1902, the entries in Wyoming rose to more than a thousand and then gradually began to subside. The entries in Montana rose to twenty-three hundred by 1903, and the Dakotas, Nevada, Oregon, and Washington, hitherto relatively inactive, now began to show an increase in the number of entries.

A new force, the National Irrigation Association, began to demand the repeal of the land laws. It carried on the first large-scale lobby in Congress. It held no meetings but maintained an elaborate press bureau which was supported by $5.00 annual dues from its members and contributions from the industrial organizations interested. Each of the transcontinental railways, including the Burlington, contributed $6,000.00 a year, and the Rock Island system gave $3,000.00.[9] The association urged that no title should be given except to actual settlers who had built homes and lived on the land for five years; that the National Government should build irrigation works out of the proceeds of public lands; that the Desert Land Act and the commutation clause of the Homestead Act should be repealed; and that the States should make "beneficial use" the basic principle of their water-right legislation and pass homestead acts applicable to their lands.[10]

No group of the American public was overlooked in the campaign carried on by the National Irrigation Association, and throughout 1902 and 1903, *Maxwell's Talisman*, one of its journals, dealt almost entirely with the reports of irregularities and frauds under the Desert Land Act and objected strenuously to granting land in such large quantities. When the Public Lands

[9] Commission on Irrigation of Arid Lands, *Hearings*, Apr. 1–8, 1904, p. 27.
[10] *Maxwell's Talisman*, 2(1):8(August 1902).

Commission made its preliminary report, the *Talisman* evinced much dissatisfaction, but with the prosecution of Senator John H. Mitchell, Congressman John N. Williamson, and Binger Hermann of the land office in Oregon and the investigations of fraud in other States, it gained much material for its campaign.

When the activities of the National Irrigation Association came up for investigation by Congress, George H. Maxwell was forced to reveal that the transcontinental railways were behind the movement and supporting the association.[11] Meanwhile, Senator Henry C. Hansbrough of North Dakota charged that the large corporations were backing the movement to change the land laws, while Representative Frank W. Mondell from Wyoming stated in 1904 that more land had been irrigated under the Desert Land Act than under all other laws combined.[12]

> I am convinced that there is no crying need for a radical change in the land laws at this session of Congress. For the first time in our history we see an active and well-organized lobby in Washington supported almost entirely by contributions of great corporate landscrip owners. These unscrupulous fellows have been industriously and persistently magnifying every irregularity and local abuse of our land laws by sending broadcast the most grossly misleading and untruthful statements as to the volume and effect of the transfer of Government lands into the hands of private individuals.

Another source of agitation for the repeal of the Desert Land Act was the new school of conservationists. To this group, the Desert Land Act was a means of gaining control of the natural resources of the country. It did not allow the timber and minerals to be exploited, but it did permit the wasteful utilization of water. Looking at the problem entirely from the viewpoint of economic good for the country, they conscientiously insisted on the repeal of the Desert Land Act and worked hand in hand with the Maxwell group.[13]

In the midst of this agitation the Public Lands Commission

[11] Commission on Irrigation of Arid Lands, *Hearings*, Apr. 1–8, 1904.

[12] *Congressional Record*, 38:4214 (Apr. 4, 1904); *Irrigation Age*, 19:71 (January 1904).

[13] President Richard Van Hise later became one of the chief exponents of this viewpoint.

carried on its investigation. The preliminary report, made in March 1904, expressed the view that Congress should leave the Desert Land Act as it was, with the exception of the provision in the act of March 3, 1891 which permitted the assignment of entries, because, if the provisions of the act are complied with "the entryman will have earned a patent at an expense too great for speculative purposes."[14]

However, the tone of the Commission's final report in the following year was entirely different. It held that the act was a means which enabled corporations to gain control of the land. The attempt of the Land Office to prevent this by ruling that a corporation could not make entry upon the land if its individual members had exhausted their rights of entry had been of no avail. The Commission claimed that the acreage allowed each person was still too great and that entry under both the Desert Land Act and the Homestead Act should not be permitted. They also held that entrymen should be forced to prove one fourth of the area under crop before final entry was granted. The act, it said, worked to create large estates because capitalists often supported entrymen. After an individual had filed his original entry, the committee pointed out, the water was usually acquired by the capitalists, who forced him to sell or go without water. The Commission recommended that assignments be no longer permitted, that stock in an irrigation company as proof of irrigation be abolished, and that the acreage allowed again be reduced.[15]

The effect of the Commission's report was great. At the thirteenth annual meeting of the National Irrigation Congress, held at Portland, Oregon, in August 1905, the subject came up for thorough discussion. Although the Government officials who were present attacked land frauds, the congress resolved that there was no relationship between the National Irrigation Association (which had been attacking the land laws, and, since 1897, controlling the Irrigation Congress) and the Irrigation Congress. In return, the Maxwell group held that the whole

[14] U. S. Public Lands Commission, *Report of the Public Lands Commission*, viii, ix (Washington, 1905).

[15] *Ibid.*, xix, xx, 79–86.

movement against the officers of the National Irrigation Association "originated in the machinations of what is known in Oregon as 'the Mitchell crowd'."[16]

The West was naturally opposed to such accusations as were brought against it, and the National Association of Agricultural Implement and Vehicle Manufacturers appointed a special committee to investigate the situation. This committee found that the general sentiment of the West was against the repeal of the act and held that in spite of the activities of the Government in reclaiming land, most reclamation would be done by private enterprise.[17]

As the campaign against the land laws continued, a counter campaign arose and in June 1907, a public land convention was held at Denver. At this convention, the Government officials were criticized severely. The forestry bureau was accused of setting aside good land for agriculture, and the Land Office was blamed for maladministration and unfairness.[18]

D. H. Anderson, editor of the *Irrigation Age*, probably epitomized the Western attitude. He held that the pictures published by the Land Office and the Reclamation Service were unfair and unrepresentative, and that the agitation for repeal of the land laws was merely an attempt of the railways to create an artificial demand for land scrip. In this campaign, he stated that the railways had succeeded in raising land values from $3.50 to $10.00 and $12.00 per acre. He also claimed that the bureau chiefs had the art of self-advertising and were following the example of Maxwell.[19]

Whatever may have been the truth of the charges preferred

[16] *St. Paul Pioneer Press*, Aug. 25, 1905; *Maxwell's Talisman*, 5 (3):13 (October 1905). Senator Mitchell, it will be remembered, was convicted in the land-fraud cases in Oregon.

[17] "Report of Committee on Arid Lands and Irrigation of the National Association of Agricultural Implement and Vehicle Manufacturers," *Irrigation Age*, 20:113–115 (February 1905). In the hearings before the Committee on Arid Lands, nearly every member from the West was against the repeal; the notable exception was from Nevada. Hearings on Repeal of Desert Land Act, 58 Congress, 2 session.

[18] *Irrigation Age*, 23:150–151 (March 1908).

[19] D. H. Anderson, "The Campaign against the National Land Laws," *ibid.*, 108–109 (February 1908).

by each side, it was obvious that the West had a distinct advantage. No matter how much the National Irrigation Association agitated, it could not be said that it represented the region affected. The executive officers and board of directors of the association, with one exception, listed places of residence outside the arid region. They were men who were prominent in business but who lacked the direct contact with irrigation which would allow them to speak with authority. The struggle thus resolved itself into a contest of self-determination of destiny on the part of the West. To the Westerners frauds were not great, and they did not intend to have the policy which had been so advantageous changed. Moreover, they had a vital interest in maintaining the policy, for if it were changed and settlement allowed only by means of the Homestead Act, what then would be the source of revenue for the national reclamation projects? How could an individual make a settlement without waiting for national irrigation projects, since with repeal it would obviously be impossible to live on the land while proving a homestead claim?

Congress, unwilling to antagonize the West by the repeal of the act, adopted the safer policy of trying to remedy the existing abuses. By an act of March 28, 1908, it provided that no assignment would be recognized unless the person to whom it was made was eligible for entry, and that entries could not be made on unsurveyed lands.[20] It was believed that this would prevent the accumulation of large holdings, and to a considerable extent this view was justified.

After the passage of the act of 1908, agitation for repeal of the Desert Land Act died down. The only subsequent change in policy was when, because of the increase in irrigation, the General Land Office began investigating the feasibility of the projects. This action meant that henceforth land would not be granted unless there was reasonable assurance that it could be reclaimed.[21]

[20] U. S. Laws, Statutes, etc., *The Statutes at Large of the United States of America* (1908), 35 (1):52; *Federal Statutes Annotated*, 550.

[21] *Decisions of the U. S. Department of the Interior Relating to the Public Lands*, 39:260–262 (Sept. 30, 1910); "Statutes and Regulations Governing Entries and Proofs under the Desert-Land Laws," U. S. Department of the Interior, General Land Office, *Circular 474* (Washington, 1929).

The era of the Desert Land Act as an important policy for reclamation of arid lands was now over. With the outbreak of the World War, constant requests for relief from the exacting requirements of the law were granted by Congress, and while entries still continued to be made, they were in ever decreasing numbers. Men's efforts were directed into other channels and the depressing conditions in agriculture after the war prevented them from taking land for farming.

It was more apparent than ever that irrigation by means of individual effort was a thing of the past. When, in 1914, the market for irrigation securities collapsed, even irrigation by corporate action went into the discard, and those who still had faith in irrigation turned to the district plan as the best available method. As a consequence, the act of August 11, 1916 provided that public lands within State irrigation districts should be subject to State laws which regulated them, such plans for reclamation being subject to the approval of the Secretary of the Interior before liens could be applied to the lands.[22]

By an act of May 15, 1922, provision was made whereby the Secretary of the Interior might make contracts with organized irrigation districts to carry out the provisions of the reclamation act of June 17, 1902. According to this law, the dates of payment to the Government for construction were to conform to State tax laws. Public lands within the district were subject to State laws regulating irrigation districts as in the act of August 11, 1916. Since the Federal Government was responsible for the water supply, it was provided that irrigation districts would not have to file maps and plans as was the usual custom.[23]

Under the acts of August 11, 1916 and May 15, 1922, applications have been made by seventy-three irrigation districts. Fifty-eight applications, involving 2,432,258.40 acres, have been approved, and sixteen, involving 323,408.09 acres, have been rejected.[24]

Although the movement for conservation continued and Con-

[22] *Statutes at Large* (1916), 39 (1):506–507.
[23] *Ibid.* (1922), 42 (1):541–542.
[24] *G. L. O. R.*, 1930:15–16.

gress was beseeched to adopt a policy applicable to the remaining public lands, comparatively little was done. Following the old policy of disposing of the public domain, Congress, by the act of February 27, 1917, provided that a person might make a desert-land entry although he already had an enlarged homestead claim, and by the "Pittman Act" of October 22, 1919, impetus was given to the development of underground waters.[25] Under this latter act the General Land Office had received 232 applications by June 30, 1930. Of these, 85 had been approved, 45 cancelled, requirements made in 82, and 20 had not yet been settled.[26]

It was quite evident that the problem of arid lands was still unsolved. The main legislation with regard to these lands had been made with the idea of bringing them under cultivation like the lands of the more humid regions. The conservationists and the people of the West were both dissatisfied with the situation, recognizing what Major J. W. Powell had pointed out years earlier; that, after all, only about 10 percent of the land could be cultivated if every drop of water available was brought into use. However, between the conservationists and the West there was a vast difference in point of view. The latter looked at the remaining public domain with longing eyes. It saw, unutilized, nearly two hundred million acres of land exclusive of Alaska, the national forests, parks, power sites, stock driveways, and land used for other purposes. In many Western States, a large share of the land was still in the hands of the Federal Government. More than 72 percent of Nevada, nearly 44 percent of Utah, over 25 percent of Wyoming, and nearly 20 percent of Arizona, New Mexico, and Idaho was still owned by the Federal Government in 1930. This area was equivalent to between one half and two thirds of the total area of Europe. In Nevada alone, an area considerably larger than Denmark, Holland, Portugal, and Belgium combined was still in the hands of the Federal Government. It was only natural, then, that the Western States desired a policy which would favor them.

[25] *Statutes at Large* (1917), 39 (1):946; (1919), 41 (1):293.
[26] *G. L. O. R.*, 1930:16.

Little was done until President Hoover, in pursuance of an act of April 10, 1930, appointed a Public Domain Commission to determine what policy should be adopted toward the remaining public lands. James R. Garfield, the ardent conservationist of the Theodore Roosevelt era, was chairman. The Commission recommended enlargement of the reserves and giving the surface lands to the States on the ground that they could better handle the existing problems. The land was to come under private control through sale to the highest bidder.[27]

In spite of the fact that Secretary of the Interior Curtis D. Wilbur, Chairman Garfield, and members of the Commission, such as Dr. Elwood Mead, were conservationists, the recommendations were immediately assailed as contrary to the principles of conservation. The Forest Service, in particular, was opposed to the plan. Colonel William B. Greeley, member of the Commission and formerly chief of the Forest Service, refused to sign the report. Ward Shepard, for seventeen years associated with the Forest Service and an ardent conservationist, recalled the days of Pinchot by appealing to the press.[28]

The conflict was merely a continuation of the old struggle to harmonize any plan of disposing of the public domain with the principles of conservation. Nearly every land law has been wasteful when measured by conservation. The report of the Commission was an attempt to strike a mean between the two principles. Certainly, if any rational policy toward grazing lands is adopted, the attempts to gain control of the public domain by means of the Desert Land Act will cease.

It is apparent, then, that the interpretation of the Desert Land Act as a policy of reclamation depends upon the viewpoint of the individual making the judgment. If the emphasis is placed upon the frauds and the utilization of the act by the stockmen, the beneficial effects are apt to be overlooked. If, on the other hand, the reclamation of Imperial Valley alone is

[27] See *United States Daily*, Mar. 9, 1931, p. 1, 5, 8, for text of conclusions and recommendations.

[28] Ward Shepard, "The Handout Magnificent," *Harper's Magazine*, 163:594–602 (October 1931).

pointed out, another distorted view is given. Imperial Valley is the largest single irrigation project in the United States; the land was largely taken up under the Desert Land Act, but it is only a part of the picture. The whole picture involves the assumption of land for the cattle industry, fraud in making the entries and claiming the patents, and abuses in the administration of the act, as well as the beneficent results in those lands made to blossom as a rose.

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THE UNITED STATES AGRICULTURAL SOCIETY, 1852–1860

Its Relation to the Origin of the United States Department of Agriculture and the Land Grant Colleges

Of the nine hundred or more agricultural societies in active operation before the Civil War, none had so pronounced an effect on future American agricultural policies as did the United States Agricultural Society.[1] This organization flourished from 1852 to 1860 and then passed out of active existence.[2] It is now almost forgotten, and its reports are rarely quoted or even read. During the years of its activity, however, the society brought to successful fruition agricultural movements which will endure as long as the United States Government continues to function.

The early leaders of the United States desired a national board of agriculture, comparable to the English Board of Agriculture and the agricultural societies of Italy and France.[3] George Washington outlined a plan in 1796, but with his customary farsighted vision and good judgment, he conceded: "We must walk, as other countries have done, before we can run. Smaller societies must prepare the way for greater."[4] At this time, Philadelphia, Charleston, New York, and Boston each had its society for promoting agriculture, composed practically entirely of prominent men of affairs. Statesmen, merchants, and professional men took the leadership in the general movement,

[1] A revision of a paper entitled "Origin of the Federal Department of Agriculture and of Our State Agricultural Colleges" which was read at a session of the annual meeting of the Mississippi Valley Historical Association, Louisville, Kentucky, on May 2, 1924.

[2] "Historical Sketch of the United States Agricultural Society," U. S. Patent Office, *Report*, "Agriculture," 1859, p. 22–30.

[3] R. C. Loehr, "The Influence of English Agriculture on American Agriculture, 1775–1825," *Agricultural History*, 11:8 (January 1937).

[4] Sir John Sinclair, *The Correspondence of the Right Honourable Sir John Sinclair*, 2:19 (London, 1831).

knowing that the prosperity of the country depended on its agricultural advancement.

Following the example and eminent leadership of Elkanah Watson who staged an agricultural exhibit on the village green at Pittsfield, Massachusetts, in 1807, agricultural fairs became an important and popular feature of the activities of the various agricultural societies.[5] In 1819, the New York Legislature appropriated $10,000 for the use of the county agricultural societies in promoting agriculture.[6] The practice spread and soon other States were giving financial assistance to aid farm exhibitions. By 1840, nearly all of the States had State agricultural societies or boards of agriculture as they were generally called. At last, there was the framework on which the dream of the early enthusiasts for a national agricultural board could be made to take tangible form.

The organization of a national society of agriculture was undertaken by Solon Robinson and others in 1841.[7] Such an organization was in existence in 1843, but apparently it ceased activity shortly thereafter, probably because of the lack of support from the general public. One of the objectives of this organization was the direction of the Smithsonian bequest, but recently brought to the United States, to the cause of improved agriculture. Failure to achieve this purpose perhaps dampened the enthusiasm of this society's founders. Its seal and records were turned over to the United States Agricultural Society in 1859 by John F. Callan who had served as secretary of the earlier society.

The organization of the United States Agricultural Society resulted from a resolution passed by the Massachusetts State Board of Agriculture which was endorsed by eleven similar boards. The several state organizations were invited to send

[5] W. C. Neely, *The Agricultural Fair*, 51–71 (New York, 1935).

[6] W. C. Watson, ed., *Men and Times of the Revolution; or, Memoirs of Elkanah Watson*, 404 (New York, 1856). Cf. Loehr, "Influence of English Agriculture on American Agriculture," 8.

[7] H. A. Kellar, ed., *Solon Robinson, Pioneer and Agriculturist*, 1:25–26, 87–94, 152–156, 164–168, 207–212, 239–240, 265–272, 281, 290 (Indianapolis, 1936); U. S. Agricultural Society, *Journal of Agriculture*, 7:30 (1859).

delegates to a meeting in Washington, D. C. The response was favorable, and one hundred and fifty-three delegates from twenty-three States met on June 14, 1851, to effect formal organization. Among the delegates present were several members of Congress, including Daniel Webster of Massachusetts, Stephen A. Douglas of Illinois, and Thomas J. Rusk of Texas. President Fillmore attended the meeting. The venerable George Washington Parke Custis of Arlington House, Virginia, was also one of the organizers. Chief credit, however, is due to Marshall P. Wilder of Massachusetts who served as the society's president for six years.[8]

The annual meetings of the United States Agricultural Society were all held at the Smithsonian Institution in Washington, D. C. Under its auspices, eight national agricultural fairs were staged in different parts of the country, the first at Springfield, Massachusetts, and later ones in Pennsylvania, Virginia, Kentucky, Ohio, and Illinois. These exhibitions were well attended and contributed much to agricultural advancement as well as to the fame of the society.

The first number of the society's transactions was issued in August 1852. A quarterly journal was issued during the first year, an annual report from 1853 through 1857, a monthly bulletin during 1858, and a quarterly for the final two years. These publications contain numerous articles on farm subjects which were probably not without influence.

If the society had done nothing more than stimulate interest in purebred livestock, improved farm implements, and better cropping methods, its labors would have been well worth while, but it would have no special claim for rescue from the oblivion into which a majority of the contemporary state agricultural societies have sunk. That which makes the work of the United States Agricultural Society notable and significant was its influence on Congress in the passage of certain legislation of vital interest to agriculture.

The right to petition Congress, granted by the Constitution,

[8] H. A. Kellar, "Wilder, Marshall Pinckney (Sept. 22, 1798–Dec. 16, 1886). . . ," *Dictionary of American Biography*, 20:210–211 (New York, 1936).

had been freely exercised, but in the case of proposals of agricultural legislation there was such a diversity of interests throughout the country that a petition from a single state agricultural society was destined to receive scanty consideration. In contrast, the resolutions passed by the United States Agricultural Society represented the viewpoint of a majority of the agricultural leaders of the entire country, and it was not politically safe for the Federal lawmakers to ignore them. Moreover, never in the country's history have the agricultural interests had more capable spokesmen than those who conducted the affairs of the United States Agricultural Society.

The success of the society in galvanizing Congress into action was perhaps due to its militant method of demanding what it desired rather than humbly petitioning for redress of the neglect of agriculture and merely protesting against proposed legislation considered inimical to its interests. In an epitome of the discussions at one of the annual meetings, the secretary recorded:[9]

> This society would not solicit but demand the establishment of what they believed to be their rights. They should not solicit anybody, not even Congress. Were they to solicit their servants, for what is Congress but the servants of the people?

The United States Agricultural Society played an important part in securing two outstanding enactments by Congress. The first was the Land Grant Act for the support of colleges of agriculture and mechanic arts, and the second was the law creating the United States Department of Agriculture. Historians of the agricultural colleges have failed to give much credit to this society for having had any connection with their creation, but the facts speak for themselves.

In 1850 and 1851, Jonathan B. Turner of Illinois delivered a series of lectures on industrial education which served to crystallize a widespread sentiment for the introduction of agricultural subjects into the school curricula. Turner outlined a plan for an industrial university which was published in the annual re-

[9] U. S. Agricultural Society, *Journal*, 8:57 (April 1860).

port of the United States Patent Office for 1851.[10] In 1853 the Legislature of Illinois passed a resolution petitioning Congress to grant lands from the public domain to each State with a value of not less than $500,000 for the endowing of industrial universities. There were numerous precedents. Congress had already set aside large areas for educational purposes.[11]

An educational convention held at Springfield, Illinois, in January 1855 assumed the task of interesting other organizations in the movement. Accordingly, Judge W. F. M. Arny of Kansas, a member of the convention, presented a resolution at the annual meeting of the United States Agricultural Society in January 1856, and after a short discussion it was referred to a committee for consideration. At the next annual meeting in January 1857 the committee failed to report, and Delegate John Jones of Delaware called up the resolution. There was a very heated debate. Some of the most influential members of the society rose in opposition on the ground that it was not likely that Congress would respond to such an unreasonable request and that the society would lose prestige by being an "unsuccessful suppliant." Others thought that such institutions could not overcome the apathy of the people for whose benefit they were designed and that no good could come of them even if Congress made the appropriation. After an amendment by Judge Arny to include the Territories as well as the States, the resolution carried by a majority of three votes. Jones was appointed chairman of a committee of four, including Arny, to bring the resolution before Congress.[12] The subsequent events leading to the passage of the College Land Grant Act are a matter of Congressional record. Representative Justin Morrill of Vermont introduced a bill on December 14, 1857, appropriating to the several States 20,000 acres of the public lands for each

[10] U. S. Patent Office, *Annual Report*, "Agriculture," 1851, p. 37–44; E. J. James, *The Origin of the Land Grant Act of 1862 . . . and Some Account of Its Author, Jonathan B. Turner* (Urbana-Champaign, 1910); L. B. Schmidt, "Origin of the Land Grant College Act of 1862," *Iowa Homestead*, 65 (11):1, 27, 28, 53 (Mar. 11, 1920).

[11] U. S. Agricultural Society, *Journal*, 4:22–23 (1856).

[12] *Ibid.*, 5:61–66 (1857).

Senator and Representative. The bill passed the House on April 22, 1858. Senator Charles E. Stuart of Michigan introduced it in the Senate, and on February 7, 1859 it passed with amendments in which the House afterwards concurred. President Buchanan vetoed the bill on February 26, 1859. At the request of Jonathan B. Turner, the father of the "industrial university" movement, both Stephen A. Douglas and Abraham Lincoln promised to sign the bill in case of election to the presidency in 1860. Morrill again introduced the bill on December 16, 1861, and it was referred to the Committee on Public Lands where it was hopelessly pigeonholed. Senator Benjamin F. Wade of Ohio introduced an identical bill in the Senate which was passed on June 10, 1862. By clever parliamentary tactics Morrill was able to arrange for its consideration in the House without first being referred to a committee, and it was passed on June 17. President Lincoln signed the bill on July 2, 1862. As finally enacted it provided for a grant of 30,000 acres of land for each Senator and Representative according to the apportionment for the Census of 1860.[13]

In a statement written in 1885 the author of the Land Grant Act said, "I do not remember that I ever heard a hint of it from any quarter, until it was brought out by myself."[14] This must have been a lapse of memory. It seems unreasonable to suppose that Morrill was ignorant of the resolution passed by the Illinois Legislature in 1853 and the action taken by the United States Agricultural Society, as he was a delegate representing Vermont at both the 1856 and 1857 meetings when it was discussed.[15]

There is evidence of much activity on the part of the United States Agricultural Society during the years the bill was before Congress, both in the form of resolutions and by personal solicitation of Congressmen in favor of its passage. The evidence would also seem to justify the conclusion that without the sup-

[13] A. C. True, *A History of Agricultural Education in the United States, 1785–1925*, p. 100 (Washington, 1929); L. H. Bailey, *Cyclopedia of American Agriculture*, 4:410–412 (New York, 1909).

[14] *Ibid.*

[15] U. S. Agricultural Society, *Journal*, 4:7 (1856); 5:10 (1857).

port given to the bill by an influential national organization such as the United States Agricultural Society there would have been little, if any, likelihood of its passage. In the light of these facts, the assertion that the Land Grant Act was a "one man idea" appears without foundation. Certainly the author of the bill should not be given credit for its initiation and adoption by Congress to the exclusion of Jonathan B. Turner of Illinois, W. F. M. Arny of Kansas, John F. Jones of Delaware, and Senators Stuart of Michigan and Wade of Ohio.

In dealing with the events which led up to the organization of the United States Department of Agriculture it is necessary to consider another governmental department which was once quite active in agricultural matters. Commencing in 1837 the United States Patent Office began to distribute seeds and plants of species new or rare. The move was favorably received, and in 1839 Congress began to support the work with small appropriations.[16] Agricultural correspondence took up a large amount of space in the reports of the Patent Office. Finally a Division of Agriculture was organized in that Office. In 1852 when the United States Agricultural Society was formed, Daniel Lee, well and favorably known to the farmers of the country as editor of the *Genesee Farmer*, was superintendent of the Division. Lee served as secretary of the society during its formative period, and other officials of the Patent Office also took conspicuous parts in its proceedings. A few years later D. J. Browne succeeded Lee in the Division of Agriculture. He appears to have been of a more pugnacious disposition than his predecessor and to have had more ambitious plans for the expansion of the agricultural work being done by the Patent Office.

At the organization meeting of the United States Agricultural Society in 1852, one of the speakers announced that the ultimate purpose of the organizers was the establishment of a national department of agriculture with a cabinet officer at its head. This proposal provoked a warm discussion. Senator Douglas

[16] K. A. Ryerson, "History and Significance of the Foreign Plant Introduction Work of the United States Department of Agriculture," *Agricultural History*, 7:114 (July 1933).

of Illinois warned the delegates that they were engaging in the organization of a political club and not an agricultural society. Despite the protests of those who thought the society should confine its activities strictly to farming problems, the subject of a Federal department of agriculture was discussed at every annual meeting. A search through the agricultural press of the time fails to show any urgent demand for such a department from any other source. A clash between the United States Agricultural Society and the Patent Office occurred at the annual meeting in 1856 when an attempt was made to elect the Chief Clerk of the Patent Office as vice president for Pennsylvania in place of Isaac Newton, a prominent farmer, who was unable to be present. Newton was elected by a large majority.[17]

As soon as John F. Jones of Delaware had received favorable action on the land-grant resolution at the 1857 meeting, he introduced the following:[18]

> *Resolved*, That the United States Agricultural Society appoint a Committee of five, to memor[i]alize Congress, asking in the name of the Farmers of the Republic the organization of a Department of Agriculture, with a Secretary at its head entitled to a seat and a voice in the Cabinet.

This also was carried. The committee appointed took no action, however, giving as the reason two years later that it was fearful of jeopardizing the prospects of the College Land Grant Act if it began agitation for a national department of agriculture.

In the meantime the United States Agricultural Society had established its headquarters in Washington. Ben. Perley Poore of Massachusetts, who had taken a conspicuous part in the society's proceedings, was elected secretary and given a salary. A break with the officials of the Patent Office immediately followed. The society began an open attack on the arrangement whereby the agricultural affairs of the Government were housed in a "basement room" and administered as an "appendage to the Patent Office." It was charged that the annual reports of the Patent Office and the distribution of seed were used by Congressmen for "political capital" rather than to improve

[17] U. S. Agricultural Society, *Journal*, 4:66–68 (1856).
[18] *Ibid.*, 5:66 (1857).

farming. This charge was denied by Senator James Harlan of Iowa, a member of the Society. "He spoke for himself, and he believed he was speaking for all members of Congress, when he said they would be glad to be rid of the office altogether."[19]

In order to avert the storm of protest that was being directed at the Patent Office, the Secretary of the Interior proposed in his annual report for 1858 that a bureau of agriculture separate from the Patent Office be created in his Department. D. J. Browne was sent to Europe to study flax culture and Thomas G. Clemson, formerly of South Carolina but at that time a resident of Maryland, a man prominently associated with the movements for agricultural advancement and also satisfactory to the officials of the United States Agricultural Society, was employed by the Interior Department, ostensibly to organize and head the bureau.[20] The society grudgingly endorsed this proposal as probably all that could be obtained at the time. Congress, however, failed to provide the necessary funds, and the circumstances were favorable for creating a separate agricultural branch in the Federal Government.

At the 1860 meeting of the United States Agricultural Society, W. G. Coffin of Indiana moved:[21]

> That a committee of three be appointed by the chair, whose duty it shall be to take into consideration the subject of the establishment of an Agricultural Department, with a cabinet minister at its head, and report to the Executive Committee at as early a day as possible, some suitable plan for bringing the subject properly before the Congress of the United States.

Charles B. Calvert of Maryland, John A. Rockwell of Connecticut, and W. G. Coffin of Indiana were appointed on the committee. Calvert was decidedly opposed to any enlargement of the work in the Interior Department and strongly in favor of the sentiment expressed in the resolution.

Thomas G. Clemson, the Superintendent of the Division of Agriculture of the Patent Office, perhaps realizing the hopelessness of ever making a strong agricultural bureau in the Interior

[19] *Ibid.*, 8:35 (April 1860).

[20] A. G. Holmes and G. R. Sherrill, *Thomas Green Clemson, His Life and Work* Richmond, Va., 1937).

[21] U. S. Agricultural Society, *Journal*, 8:65 (April 1860).

Department, included the following recommendation in his report for 1860:[22]

> An adequate organization and corresponding appropriations will be greeted throughout the land with the approving response of millions. A Department established under such auspices for the benefit of the paramount agricultural interest of the country, should be separate and apart from all influences other than those prompted by the highest regard for the public good, unobtrusive in its conduct as in its nature, and having truth for its object.

No records are available which show just what steps were taken to carry into effect the purposes of the resolution of the society and Clemson's recommendation. Strong political influence must have been brought to bear on Congress for the United States Department of Agriculture was created in 1862 with a commissioner at its head who was directly responsible to the President of the United States.[23] Isaac Newton of Pennsylvania, whose election as vice president of the United States Agricultural Society six years earlier had disturbed the amicable relations between the society and the Patent Office, was appointed the first Commissioner of Agriculture. Townend Glover, another prominent member of the society, became the first entomologist of the Department. The Commissioner's reports, patterned as they were after those of the society, consisted largely of articles on definite subjects instead of the random unrelated correspondence which characterized the Patent Office reports.

With the creation of the United States Department of Agriculture the need for a national agricultural society appeared to be over. The Civil War disrupted the society and prevented the holding of national exhibitions, but some of the members living in or near Washington kept up a semblance of an organization for several years. In 1881, an attempt was made to revive the society. A brief report was published which stated:[24]

> The meeting was not largely attended, as no new annual or life members have been admitted since 1860, and those who joined before that time are generally

[22] U. S. Patent Office, *Annual Report*, "Agriculture," 1860, p. 11.

[23] E. D. Ross, "Lincoln and Agriculture," *Agricultural History*, 3:51–66 (April 1929).

[24] U. S. Agricultural Society, *Proceedings*, 1881, p. 10.

too far advanced in life to go far from their homes. It was, in fact, a reunion of veteran agriculturists, and the meeting of old friends and co-laborers was cordial and interesting.

Due to the work of these old veterans, a new day for agriculture had dawned by 1881. Progress in farming was no longer dependent on the voluntary efforts of a few broad-minded patriotic individuals. The farmers' problems were being attacked in government-controlled institutions, equipped with laboratories, greenhouses, and experimental gardens in which trained research specialists labored. Scientific discussions founded on cold-blooded calculations superseded the fervid oratory of the previous generation. The result may have been more efficiency, but agriculture lost something in the disbanding of the United States Agricultural Society in the early sixties.

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THE LEGAL BASIS OF THE MARKETING WORK OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

Organized and expressed interest in the processes of marketing farm products and their improvement existed as early as 1869.[1] In that year the circulars of the first permanent Grange in Minnesota emphasized the importance of action on certain phases of marketing.[2] Later these objectives were adopted more or less generally by the Grange, but the desired improvements did not materialize although some results were obtained through State legislation regarding such matters as grain inspection, warehousing, and railway regulation. In general, however, the problems of production engaged the attention of the public, the student, and the agriculturist during the nineteenth century. Meanwhile the processes of marketing became more and more complex and involved as the requirements of a rapidly growing commonwealth took them from the hands of the producers and developed a class of men whose sole business was handling the products of others.

The first scientific study of marketing problems appeared in 1900 when the United States Industrial Commission, charged by Congress with the duty of investigating "questions pertaining to immigration, to labor, to agriculture, to manufacturing, and to business, and to report to Congress," deemed the question of marketing to be of such fundamental importance that it submitted an advance report on the distribution of farm products in order to "furnish Congress and the public with concrete data, assembled from a hitherto but partially exploited field of inves-

[1] This article is based on a statement prepared in 1920 and circulated briefly in mimeographed form with the title, "History of the Bureau of Markets (as Traced through Official Publications)," to meet the frequent requests for copies of "the act that established the Bureau of Markets" and to correct other prevalent erroneous impressions concerning its creation.

[2] S. J. Buck, *The Granger Movement*, 46 (Cambridge, Mass., 1913).

tigation," with the suggestion that it might "form a basis for intelligent analysis, useful alike to the legislator, the farmer, and the business man."[3]

This report, now recognized as a remarkable piece of work, awakened little interest at the time. Several years elapsed before the public, or even the students of agriculture, began to realize that a thorough knowledge of the methods of distributing agricultural products is as important as a knowledge of methods of production and that improvement in the one should keep pace with improvement in the other. As the costs of production increased and the demands of consumption became more exacting and competition more active, the farmers' interest in marketing grew. Meanwhile the rapid increase in prices as compared with wages, beginning about 1907, and the consequent decrease in purchasing power, stimulated in the urban consumers a considerable interest in the problem of food supply and its costs.[4]

Some of the agricultural States responded to the farmers' growing interest. Illinois, Minnesota, and Wisconsin conducted scientifically planned investigations of the methods and costs of marketing specified commodities, the results of which were made available in bulletin form. Some of the larger cities, notably New York and Philadelphia, doubtless spurred by the concern among consumers, recognized the importance of the problem and sponsored studies of certain phases through mayors' offices or special commissions. The United States Department of Agriculture extended many of its commodity investigations, hitherto concerned primarily with production, to include the marketing processes, with a view to making recommendations for their improvement.

Approximately ten years after the publication of the report by the Industrial Commission, the interest of the people in

[3] L. D. H. Weld, *The Marketing of Farm Products*, 2 (New York, 1917); U. S. Industrial Commission, *Report on the Distribution of Farm Products*, 6:2–3 (Washington, 1901).

[4] I. M. Rubinow, "The Recent Trend of Real Wages," *American Economic Review*, 4:793–817 (December 1914).

marketing problems began to crystallize into rather insistent demands for governmental assistance. There were many and diverse opinions on the proper way to meet these demands. As the steps taken by the Government are recorded in scattered and rather inaccessible sources, an effort is here made to trace them accurately in the form of a connected story, with such amplification and discussion as seems necessary.

When making appropriations for the Department of Agriculture in 1910, Congress, in response to the requests of the people, authorized the Secretary "to investigate the cost of food supplies at the farm and to the consumer, and to disseminate the results of such investigation in whatever manner he may deem best." In the corresponding act of the following year this authority was expressly continued.[5] However, as funds were not made available no real results were obtained.

Meanwhile popular interest in the matter had not abated, and therefore, in the act making appropriations for the Department for the fiscal year 1913, the authority was again conferred, and the following more elaborate and explicit provision was also included.[6]

> And that the Secretary of Agriculture be and he is hereby directed to secure from the various branches of the department having authority to investigate such matters, reports relative to systems of marketing farm products, cooperative or otherwise, in practice in various sections of the United States and of the demand for such products in various trade centers, and shall make such recommendations to Congress relative to further investigations of these questions and the dissemination of such information, as he shall deem necessary.

Accordingly, in December 1913, the Honorable James Wilson, Secretary of Agriculture, transmitted to Congress a comprehensive report on the subject, published as *Report 98* of the Office of the Secretary.[7] This report was prepared by experts and specialists throughout the Department. It reviewed existing

[5] U. S. Laws, Statutes, etc., *The Statutes at Large of the United States of America*, 36 (1):440, 1264.

[6] *Ibid.*, 37 (1):295–296, 300.

[7] "Systems of Marketing Farm Products and Demand for such Products at Trade Centers," U. S. Department of Agriculture, Office of the Secretary, *Report 98* (Washington, 1913).

commercial systems in some detail, presented statements by managers of large firms and associations, outlined marketing investigations already undertaken in various bureaus of the Department, discussed the functions of a possible "Division of Markets" in the Department of Agriculture, and made specific recommendations regarding the proposed duties and the proper limitations of such a division. In fact, this report might well be considered an epoch-marking publication in the history of the Department of Agriculture.

From the beginning a keen interest in a comprehensive and free market-news service prevailed. Naturally the general public was entirely uninformed regarding the complexity and magnitude of such an undertaking and had little idea of the tremendous expense which such a service would involve. *Report 98* frankly pointed out the possible pitfalls and probable expense incident to the development of a wide service, based on the testimony and experience of organizations conducting news services on selected commodities over limited areas.

About this time numerous bills were introduced in Congress to establish a division of markets in the Department of Agriculture or to take some similar action. The hearings and reports on these bills give evidence of the urgent interest of the public and the determination of many leaders to secure legislation providing definite results and relief. Most of the bills were drawn with little regard for practicability or probable expense, and many of them contemplated the usurpation of legitimate powers of dealers and distributors. Others sought to introduce into America methods or machinery that were successful in various European countries but entirely unsuited to American ideals and conditions.

Of the proposed legislation, S. 5294, an Act to establish in the Bureau of Statistics, Department of Agriculture, a Division of Markets, made the greatest progress. It was passed by the Senate and was reported favorably by the House Committee on Agriculture. Its scope was great and, according to a member of the Committee, from two hundred million to a billion dollars a year would have been required to carry out its provisions.[8]

[8] *Congressional Record*, 49(3):3009 (Feb. 11, 1913).

After considerable debate and numerous conferences, in which many elaborate schemes were proposed and discussed, wiser counsel finally prevailed, and it was decided merely to insert an item in the agricultural appropriation bill for 1914, under which tentative work might begin in a rather independent way. A few of the legislators realized that many preliminary investigations must be made and much preliminary work done before the Government could safely undertake to make far-reaching suggestions regarding so complicated a subject, and they therefore urged a conservative beginning. This was in line with the recommendations made by the Secretary of Agriculture and others who were well informed regarding the already existing possibilities for developing such work in the Department and the necessity for proceeding along sound economic lines.[9]

Accordingly the House Committee on Agriculture inserted such an item in the appropriation bill with the following explanation:[10]

> In response to many appeals made to this committee by various organizations of citizens of this country for the establishment of a division of markets in the Department of Agriculture, this item is inserted in the bill to enable such work to be done by the Department of Agriculture along the lines indicated, that Congress may be able to decide as to the feasibility and desirability of establishing at some future time the division of markets as requested.

This item passed the House and appeared in the bill referred to the Senate Committee on Agriculture and Forestry, where the item was amended and the work was transferred to the Bureau of Statistics. The various proposed amendments are set forth in detail in the *Congressional Record*.[11] The Senate concurred in the recommendations of its committee and the amended bill was sent back to the House. The Conference Committee refused to accept the changes with the result that the Senate receded from both of its amendments. The agricultural appro-

[9] U. S. Congress, 62nd, 2 sess., Committee on Agriculture, *Hearings . . . on the Estimates of Appropriations for the Fiscal Year Ending June 30, 1913*, p. 254–257; and *Hearings . . . on the Estimates of Appropriations for the Fiscal Year Ending June 30, 1914*, p. 300–301.

[10] U. S. Congress, 62nd, 3 sess., *House Report 1348*, p. 10 (Washington, 1913).

[11] U. S.Congress, 62nd, 3 sess., *Senate Report 1288*, p. 6 (1913). *Congressional Record*, 49 (5):4139–4140, 4650 (Feb. 27, 1913).

priation bill for 1914 as finally passed included the following sentence:[12]

> To enable the Secretary of Agriculture to acquire and to diffuse among the people of the United States useful information on subjects connected with the marketing and distributing of farm products, and for the employment of persons and means necessary in the city of Washington and elsewhere, there is hereby appropriated the sum of $50,000, of which sum $10,000 shall be immediately available.

This clause follows the wording of the statute that created the United States Department of Agriculture. It is practically the same as the item drafted by the House Committee plus a provision which made funds available immediately. This bill was approved by the retiring President on March 4, 1913. Thus, the authority for the marketing work conducted by the Department was originally conveyed by a regular agricultural appropriation act and not by an organic act as is frequently supposed.

This enactment was directly in line with the plans of the new Secretary of Agriculture, the Honorable David F. Houston, who brought to the Department a decided economic and social viewpoint. Immediate steps were taken to carry out this duty in the most effective way possible. On March 27, 1913 a conference of Department workers was held "for the purpose of outlining the work of the various Bureaus in connection with the marketing and distribution of farm products to report results already accomplished, and to discuss plans for the further development of these investigations in carrying into effect the provision in the agricultural appropriation bill for the fiscal year 1914 setting aside $50,000 for this purpose."[13]

The report of this conference is of value in that it describes in greater detail than does *Report 98* the marketing work then under way in the Department, with names, dates, and some illuminating comments by the workers involved. It shows that work relating to harvesting, transporting, storing, and market-

[12] *Statutes at Large*, 37 (1):854.

[13] "Department Conference on the Marketing and Distribution of Farm Products." The typewritten copy of this report in the possession of the Library of the U. S. Department of Agriculture is probably the only accessible copy.

ing many kinds of fruit and truck crops, grading, transporting, and handling cereals, and grading and marketing cotton had been under way for several years and that studies were being made of market methods and the conditions surrounding the transportation and marketing of eggs, milk, butter, and other animal products. The subject of cooperation among farmers had also received considerable attention.

On April 29, 1913, a conference of some of the leading experts and students in the field of marketing was held at the Department to " 'secure the views of experts and others in the problem of organizing and conducting a marketing service in the Department of Agriculture.' " The meeting was presided over by the Secretary of Agriculture "who spoke briefly of the importance and complexity of the task of carrying out the provisions of the act, the widespread interest in the subject, the meagerness and primitiveness of the knowledge regarding it, and the likelihood of a considerable length of time elapsing before it can be studied adequately and definite conclusions reached." The Secretary outlined the four divisions of the subject which he thought were suggested by the provisions of the act: the study of organized marketing, a market news service, a study of methods and cost of distribution, and transportation problems. Recognized experts who had been invited to attend presented suggestions that tended to emphasize and amplify these divisions.[14]

On May 16, 1913, less than ten weeks after the appropriation was made, the Office of Markets was created by the Secretary of Agriculture in the belief that the most effective way to carry out the work authorized by Congress was through an Office formed expressly for the purpose of acquiring and diffusing information on marketing. The public record of the creation of the Office is contained in a project statement covering the proposed work, approved in the Office of the Secretary, and in

[14] U. S. Department of Agriculture, Office of the Secretary, *Organization and Conduct of a Market Service in the Department of Agriculture, Discussed at a Conference Held at the Department on April 29, 1913*, p. 1–2 (Washington, 1913). The publication is not numbered.

the appointment of Charles J. Brand, who had recently developed the work in the Department relating to the cooperative handling and marketing of cotton, as Chief of the Office of Markets.[15]

By creating an Office for this work rather than a division in a Bureau, the Chief was made directly and solely responsible to the Secretary of Agriculture, and since the organization of an Office as that term is used in the Department of Agriculture is less formal than that of a Bureau, the preliminary and early work was not hampered by tradition and custom. The Office form of organization is more flexible, more susceptible to readjustments, and was therefore well adapted for trying out this important line of work.

With the appropriation then available, organization work was begun immediately. A definite program was evolved along the general lines previously considered, but outlining several distinct lines of attacking the problem at hand: cooperative marketing; surveys of supply and demand; study of methods and cost of distribution; study of transportation problems; investigation of practicability, methods, and costs of a general news service; and cotton handling and marketing investigations. The last item provided for continuing certain work that was already well advanced in the Department.

As had been anticipated, considerable time was required to find suitable men for this work, for practical knowledge and experience as well as academic and economic training were needed. The problems to be studied were admittedly complex, the prevalence of erroneous ideas regarding practicable methods of procedure was recognized, and it seemed desirable that progress be not unduly hastened.[16] By the beginning of the calendar year 1914 definite work along promising lines was well under way.

The first annual report of the Chief of the Office of Markets

[15] Apparently there is no printed official record of the creation of the Office of Markets, but both of these documents in typewritten form are on file in the Department of Agriculture and in the Bureau of Agricultural Economics.

[16] U. S. Congress, 63d, Committee on Agriculture, *Hearings . . . on a Bill Making Appropriations for the Department of Agriculture for the Fiscal Year . . . 1915*, "Testimony of Secretary of Agriculture," p. 119–123.

indicated some rather tangible results, notably in the work with the cooperative cotton associations and in the amount of valuable information that had been gathered.[17] These data related to the extent and activities of producing areas of specified products, and the shipments, destinations, and prices at terminal markets, city marketing conditions, cooperative marketing activities among farmers, the possibilities of marketing farm products by parcel post, and similar subjects. It was being disseminated through correspondence with the public. Three bulletins and various short articles had been published and other bulletins were in press.

The Office of Markets was first officially recognized by Congress in the agricultural appropriation act for the fiscal year 1915, when $200,000, an amount four times that set aside the previous year, was appropriated specifically for its use in marketing work.[18] At this time great interest in improvement of rural credit, communication, and social and educational activities prevailed throughout the country. The General Education Board volunteered to contribute a sum of money for this purpose to be expended under the direction of the Secretary of Agriculture. This offer was accepted and the work was inaugurated under the name of Rural Organization Service, in a working unit even more flexible in form than an Office. It was merely affiliated with the Department of Agriculture.

The Department was considering a plan for the reorganization of its work into broad lines or groups according to the services rendered. Under this scheme, organization for marketing purposes was tentatively classified with many other lines of work in the rural organization service. This plan was outlined in the report of the House Committee on Agriculture which accompanied the agricultural appropriation bill for 1915, but it was never put into effect. On the contrary, Congress provided $40,000 for the financing of the rural organization activities already under way, believing that it was inexpedient for the

[17] U. S. Department of Agriculture, *Annual Report . . . for the Year Ended June 30, 1914*, p. 317–327 (Washington, 1914).

[18] *Statutes at Large*, 38 (1):440.

Government to disburse funds that were provided by private individuals or corporations.[19] Following this action, the rural organization work and the Office of Markets were combined and designated the Office of Markets and Rural Organization by the Secretary of Agriculture. The appropriation act for the fiscal year ending June 30, 1916 gave legal sanction to the combination by specifically providing $484,050 for the Office of Markets and Rural Organization.[20]

In 1915 the administration of the cotton futures act, approved by the President and carrying a continuing appropriation of $150,000, was entrusted to this Office under the direction of the Secretary.[21] Thus, the total appropriation over which the Office had authority in 1915 was $390,000, and this year marked the beginning of the regulatory powers which were destined to become a very important part of its work. During this same year the Office, on the basis of its own investigations, successfully operated a market news service on certain fruits and vegetables. This service was enthusiastically received by growers, shippers, and the produce trade. The agricultural press in general welcomed the work of the new Office, and farmers and consumers made increasing demands on its time and funds and through correspondence and testimony gave hearty support to its aims, efforts, and rapidly increasing work.

The subsequent development of the work was accomplished by the normal but rapid working out of well-laid plans that were cordially received and supported by the people, by entrusting to the Office the administration of certain Federal agricultural laws of an economic character, by transfer of related lines of work previously conducted in other bureaus, and by the swift development of various kinds of work to meet emergency demands arising in connection with the World War.

The agricultural appropriation act for the fiscal year 1917 included as parts B and C the grain standards act and the ware-

[19] *Congressional Record*, 51 (5):4551–4555 (Mar. 9, 1914).
[20] *Statutes at Large*, 38 (1):1111.
[21] *Ibid.*, 693.

house act and was signed by the President on August 11, 1916.[22] On August 31 the standard container act was also approved.[23] All of these new laws were assigned to the Office of Markets and Rural Organization for administration, thereby greatly increasing its work. The conscientious exercise of the police powers conferred by these laws, particularly the one relating to grain, even though conducted as nearly as practicable as an educational enterprise, brought some measure of unpopularity in certain adversely affected quarters. This opposition increased the difficulties but did not lessen the endeavors of the Office. The grain standards act carried a continuing appropriation of $250,000, the warehouse act $50,000, and the regular appropriation for the Office for this fiscal year was $872,590. Thus the total amount for the year to be expended under the direction of the Office was $1,172,590. The standard container act was administered with funds allotted from the regular appropriation.

During these years certain lines of work related to marketing which had been started in other bureaus of the Department were transferred to the Office of Markets and Rural Organization. These included investigations pertaining to cotton standards and testing, handling and transportation of grain and determination of grain standards, and preservation of fruits and vegetables, which were transferred from the Bureau of Plant Industry. Each of these branches required the entire time of a considerable staff of workers. Cooperative relations for work on transportation of fish and poultry were developed with the Bureau of Chemistry, and working contacts with other bureaus were strengthened.

The Office of Markets and Rural Organization formally became a Bureau through the agricultural appropriation act for the fiscal year ending June 30, 1918, approved March 4, 1917, which provided $1,718,575 for the Bureau of Markets under that name.[24] The magnitude of the work at that time is indi-

[22] *Ibid.*, 39 (1):482–491.
[23] *Ibid.*, 673.
[24] *Ibid.*, 1162.

cated by the size of appropriations expended under its direction. Besides the amount carried in the regular appropriation the Bureau controlled $2,522,000 for war emergency work, and a revolving fund of $10,000,000 for the purchase and distribution of nitrate of soda.

The annual report of the Chief of the Bureau for the year ending June 30, 1918 shows that the regular activities were divided into three groups,—investigational, service, and regulatory,—with many specific projects being conducted by each group.[25] Besides the appropriation act and the four Federal acts administered by the Bureau, two other acts provided for special work relating to the war. Some of the undertakings in the war work were very large. During the year sixty-six formal publications were issued as well as the regular numbers of two emergency periodicals and several bulletins in cooperation with the States. The number of employees reached 2,289 in 1918, and there were 108 permanent branch offices.

Thus in 1918, just five years after the beginning of its work, the Bureau of Markets took its place among the largest bureaus of the Department of Agriculture. Signal progress had been made along such fundamental lines as standardization, collection, and dissemination of market information on a nation-wide basis, improvement in preparation of farm products for market, improvement of transportation conditions including methods of loading and refrigerator car service, and determination and promulgation of the basic principles of successful cooperation. The Bureau of Markets had succeeded in convincing all thoughtful persons, and, to a perceptible degree, the general public, that careful investigation is basic to any far-reaching improvement in our complicated market conditions. People were beginning to realize that no single method, plan, or device could bring about revolutionary improvements in the order of things, but that efficient utilization of the part of each method and procedure that promised the best results under given conditions would gradually bring about a wise distribution of farm products

[25] U. S. Department of Agriculture, *Annual Report . . . for the Year Ended June 30, 1923*, p. 131.

with stable profits to the farmers and more reasonable prices to the consumers.

When Charles J. Brand resigned as Chief of the Bureau in 1919, Secretary Houston wrote him as follows:[26]

> You have been in charge of the organized marketing work of the department since its beginning in 1913. . . . When you assumed your duties you were faced with a pioneer task. There were then no marketing agencies, either in the Federal or State services, solely designed to assist the Nation in the marketing and distribution of farm products. These matters had received too little attention at the hands of institutions training men for national service, as well as at the hands of legislative bodies. You were confronted with the duty not only of marking out in a definite way the paths of endeavor, but also of discovering, and in a measure of training, the men for the work.

Three years later the Bureau of Markets, the Bureau of Crop Estimates, and the Office of Farm Management and Farm Economics were consolidated to form the present Bureau of Agricultural Economics, under the leadership of Dr. Henry C. Taylor. In the new Bureau the identity and the organization of the various lines of work were preserved to a considerable extent in three groups of associated divisions,—the production divisions, the commodity marketing divisions, and the group of research divisions dealing with the problems of production, marketing, and farm life. These groups were flexible, allowing readjustments, redirection, and cooperation. This integration of the economic work of the Department of Agriculture has enabled it, under succeeding chiefs, and now under Dr. A. G. Black, to present a complete picture of the economics of agriculture from the problems of the individual farms through those of distribution and marketing to the larger considerations of general welfare and world supply and demand.

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[26] U. S. Department of Agriculture, *Weekly News Letter*, 6 (47):8 (June 25, 1919).

AGRICULTURAL HISTORY FOR FARM ECONOMISTS

A historical background is essential for the intelligent appreciation of modern economic conditions, and especially is this true since economists have turned to the study of existing conditions in place of basing their theories upon imaginary states of society. Because of this new approach, a good deal of economic inquiry is now made in specific fields. The results of the studies are, however, often isolated in time and cut off from their historical roots because the economist dealing with modern problems can rarely obtain historical information of the type that he requires in order to make the necessary comparisons. It should be the business of the economic historian to provide these data. Although the illustrations here given relate to English agricultural history, it is believed that the generalizations derived therefrom are also of interest to historians and economists whose main work relates to other countries.

In the past too many historians have made it their aim to present generalizations, not infrequently somewhat facile, rather than to accumulate precise knowledge of a quantitative kind. Admittedly it is difficult to secure this information, and the results of any attempt to produce historical statistics relating to any time before the nineteenth century are likely to be extremely tentative. Nevertheless, significant figures can be discovered, and when presented with a due consideration of their value as evidence, can be of service in making comparisons between present-day conditions and those out of which they have developed.

The figures in which modern farm economists have been most interested relate to farm output, gross income, labor income, and farm management problems generally. With such information, quite apart from any questions of price which need such elaborate statistical treatment, comparisons with modern methods and results can be made, and an illuminating picture of economic

evolution produced. The author has tried to produce some of these figures for eighteenth-century England.

An example of the kind of estimate it is possible to produce is supplied in an article on "Population and Wheat Production in the Eighteenth Century" which is an attempt to estimate the volume of supply, the area on which it was grown, seed rates, and so on.[1] The picture supplied by *Agricultural Statistics* since 1867 is there amplified, and the trend of production carried back a stage further. It is feared, however, that it will prove impossible to make an even tolerable estimate for the seventeenth century.[2]

The productivity of the cattle-breeding industry in the eighteenth century is somewhat more precisely illuminated than heretofore in an article on "The Size of English Cattle in the Eighteenth Century" which shows that there were wide variations in size between the different breeds, but the extant data do not provide any indication of the number of each breed which went to make up the total cattle population.[3] Such recent essays as "A Two Years' Comparison of Foods Fed to Livestock in West Cornwall" and "A Farming Tour through Suffolk" show that so far as size is concerned many types of modern cattle are no larger than their ancestors of the eighteenth century, and late sixteenth and early seventeenth century evidence shows that the 600-pound beast was common even then. Milk yields, etc., of the eighteenth century form the subject of another study.[4]

[1] G. E. Fussell, "Population and Wheat Production in the Eighteenth Century," *History Teachers' Miscellany*, 7 (5):65–68, (6):84–88, (7):108–111, (8):120–127 (May–August 1929).

[2] See G. E. Fussell, "Grain Supply in Two Wars; the Napoleonic and the European," *Scientific Agriculture*, 12:535–543 (May 1932), for the methods used.

[3] G. E. Fussell, "The Size of English Cattle in the Eighteenth Century," *Agricultural History*, 3:160–181 (October 1929).

[4] W. H. Long and S. T. Morris, "A Two Year's Comparison of Foods Fed to Livestock in West Cornwall," Seale-Hayne Agricultural College, Department of Agricultural Economics, *Farmers Report 8* (Newton Abbot, Devon, England, 1934); "A Farming Tour through Suffolk," *Field*, 162:446 (Aug. 12, 1933); G. E. Fussell, "Milk Production in the Eighteenth Century," *Home Farmer*, 3 (7):16–17 (July 1936). Cf. G. E. Fussell and Constance Goodman, "The Eighteenth-Century Traffic in Milk Products," *Economic History*, 3:380–387 (February 1937).

Modern enterprise studies like James Wyllie's "Sheep Breeding and Feeding over Six Years" will find useful material for comparative purposes in an article on "Eighteenth Century Estimates of English Sheep and Wool Production" which is a collection of contemporary estimates of size of animal, weight and quality of fleece, and so on.[5]

The first to attempt a farm management survey over a wide area of England was Arthur Young in the 1770's, and the merits and defects of this effort have been discussed elsewhere. Young's outline, the editions of early farmers' accounts like *Robert Loder's Farm Accounts*, edited by G. E. Fussell, Eleanor C. Lodge's *Account Book of a Kentish Estate*, and the late eighteenth and early nineteenth century accounts from the Marcher counties published by W. B. Mercer in the *Reaseheath Review* provide a basis for comparison with such studies as R. McG. Carslaw's "Study of Conditions in the Eastern Counties" and "Survey of Hertfordshire Agriculture." It is to be hoped that whoever comes across such documents will endeavor to edit them and publish the material.[6]

Another subject in which the farm economist is interested is markets and marketing. A good deal of information has already been provided by historical research workers on this subject, but more would be welcome, particularly with regard

[5] James Wyllie, "Sheep Breeding and Feeding over Six Years," Wye, Kent, South-Eastern Agricultural College, Department of Economics, *Report 10* (Wye, 1930). G. E. Fussell and Constance Goodman, "Eighteenth Century Estimates of English Sheep and Wool Production," *Agricultural History*, 4:131–151 (October 1930).

[6] G. E. Fussell, "A Youngs erste Farmbetriebs' Aufnahme," *Berichte über Landwirtschaft* (n.f.), 19:117–123 (January 1934); G. E. Fussell, ed., *Robert Loder's Farm Accounts, 1610–1620* (London, 1936); Eleanor C. Lodge, *The Account Book of a Kentish Estate in the Seventeenth Century, 1616–1704* (London, 1927); W. B. Mercer, "Thomas Furber, an 18th Century Cheesemaker," *Reaseheath Review* (Reaseheath, Cheshire), 5:5–14 (1933), "Ralph Basford," *ibid.*, 6:7–18 (1934), and "Cheesemaking 100 Years Ago," *ibid.*, 7:9–15 (1935); Ronald McG. Carslaw, "Changes in the Economic Organization of Agriculture; A Comparative Study of Conditions in the Eastern Counties of England in 1933 and 1935," University of Cambridge, Department of Agriculture, Farm Economics Branch, *Report 23* (Cambridge, 1936), and "An Economic Survey of Hertfordshire Agriculture," *ibid.*, *Report 18* (Cambridge, 1931).

to the scale of unit production, the lines of transport, and the methods of aggregation, wholesaling, and retailing.

A practically complete survey of contemporary methods of marketing the various agricultural commodities has been provided by the Ministry of Agriculture's "Economic Series."[7] It is now the business of the economic historian to complete the picture by showing how these methods were developed. The classic attempt to do this is N. S. B. Gras's *Evolution of the English Corn Market*, and further light is thrown on the subject in a recent essay by F. J. Fisher on the London food market. Caroline Skeel's "The Cattle Trade between Wales and England" describes the droving and marketing of Welsh cattle from the end of the seventeenth century. This has been elaborated in an essay on "Eighteenth Century Traffic in Livestock" which discusses the business over the whole country.[8] Clearly, however, much yet remains to be done in this field before sufficient data will be accumulated to form a complete background to modern conditions.

Another subject which merits attention, particularly in these days when so much is heard of malnutrition, is that of dietetic habits in, say, the sixteenth, seventeenth, and eighteenth centuries. There is scattered information available, and it is to be hoped that more will be collected shortly. In part, the people's diet was dependent to some extent upon the conditions of soil and climate, which permitted only certain types of crops to be grown by the rule of thumb system of farming practiced in prescientific times under all the handicaps implicit in such circumstances. Today modifications of farm practice, improved manuring, and so on have enabled alternative crops to be grown

[7] Great Britain, Ministry of Agriculture and Fisheries, *Economic Series (Orange Books)*, no. 1– (London, 1925–).

[8] N. S. B. Gras, *The Evolution of the English Corn Market from the Twelfth to the Eighteenth Century* (Cambridge, Mass., 1915); F. J. Fisher, "The Development of the London Food Market, 1540–1640," *Economic History Review*, 5:46–64 (April 1935); Caroline Skeel, "The Cattle Trade between Wales and England from the Fifteenth to the Nineteenth Centuries," Royal Historical Society, *Transactions* (ser. 4), 9:135–198 (1926); G. E. Fussell and Constance Goodman, "Eighteenth Century Traffic in Livestock," *Economic History*, 3:214–236 (February 1936).

on poor land. Consequently local dietetic habits have been greatly modified, and modern transport has provided for a uniformity of dietetic habit over wide areas which could not have been achieved without it.

A note on "The Change in Farm Labourer's Diet during Two Centuries" shows that the change was small up to the Great War, amounting to little more than an addition of potatoes and a slight decrease in milk consumption.[9] Supplementary to this, a study of the dietary of the different rural classes in the eighteenth century is at present under consideration. A great deal of scientific work on nutrition is now available and it is hoped that the evidence of the earlier period will enable valuable judgments upon the incidence of deficiency or superfluity diseases to be found.

The social aspect of farming cannot be adequately measured unless some study is made of the housing accommodation of the different classes and the household equipment it contained. A sufficient number of books has already been written about the appearance of houses and furniture, but little has been done to discover how many people lived in what sized rooms and what number of chairs, tables, saucepans, and bedsteads they possessed.[10] It really matters very little to a man what shape a chair is as long as he can sit upon it with the comfort of custom. It is more important that there should be one for each member of the family than that they should be of a particular type of wood. An attempt at something of this sort was made in an essay on "Farmers' Goods and Chattels, 1500–1800" and its amplification at a later date is planned.[11]

Such facts as these have always seemed to the present writer to be the essence of farming history, and he has planned his researches so as to supply as much of such material as possible. Much more work should be done and should invariably aim at a

[9] G. E. Fussell, "The Change in Farm Labourers' Diet during Two Centuries," *ibid.*, 1:268–274 (May 1927).

[10] G. E. Fussell and Constance Goodman, "The Housing of the Rural Population in the Eighteenth Century," *ibid.*, 2:63–90 (January 1930).

[11] G. E. Fussell and G. B. Atwater, "Farmers' Goods and Chattels, 1500–1800," *History* (n.s.), 20:211–220 (December 1935).

quantitative measure of material conditions and not money values. The evidence is scanty, often unreliable, discontinuous in time and space, and requires very careful handling. Despite these drawbacks it is more precise than the romantic view of past times often presented, and if more attention were paid to accumulating evidence of an arithmetical character modern farm economists would very likely be less neglectful of the historical conditions out of which the modern problems they study have evolved.

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THE ECONOMIC HISTORY OF NEGRO SLAVERY IN THE UNITED STATES

Any description of the economic characteristics of Negro slavery must be tested by the economic history of the institution. In turn the economic history of Negro slavery, to be truthful, must be written with the inherent characteristics of slavery and the native traits of Negroes in mind. It also should be written whole, and it should be written with the general economic history of the entire country as a background. Thus, it is at least possible to avoid attributing conditions in one period of history or in one portion of the Union to slavery while attributing the same conditions in another period or in another region to entirely different causes. It is believed that many misjudgments have been commonly pronounced upon slavery in its economic aspects and that such misinterpretations have been due principally to a too exclusive concern with slavery in only one section of the Union during only one period, namely about 1830 to 1865, and to using the approach of political rather than economic history.

Slavery was first introduced into the Continental English Colonies in response to the demands of the tobacco-growing industry. It was early found that the soil and climate of Virginia and Maryland, particularly, were suitable for growing tobacco. Tobacco was not bulky in proportion to its value, it was not perishable, and the small ships of the day could collect it from the wharves of individual planters on the numerous rivers and creeks of the Tidewater region; consequently, it would stand the long shipment to Europe. The English Government imposed discriminatory taxes on tobacco not grown in English colonies and forbade its growth in the British Isles. The English and European appetite for the weed grew. Thus an adequate market was established. Enterprising tobacco growers in the Colonies naturally looked about to see how they might enlarge the scale of their operations.

Land and labor were the chief requisites for growing tobacco on a large scale. Land was easily obtained, but labor was not. Men would not work for wages when it was so easy to become independent farmers. Planters first had recourse to white indentured servants, and the plantations in Virginia and Maryland in the seventeenth century were built up chiefly with that kind of labor, but it was not entirely satisfactory. To secure such servants the planters had to pay their passage to America,—a considerable sum. The supply was limited and many were "jail birds" of poor quality.[1] A large proportion died before they had become acclimated. At best they served only the period of indenture—about four years on the average—and then they were free and their children with them.

The use of Negro slaves elsewhere suggested their use in the English Colonies. The English Government encouraged it, prompted largely by the desire of various influential people at home to profit by the African slave trade. The tobacco planters were hesitant; they had to overcome racial prejudice and gain experience in handling slaves. Although Negroes fresh from Africa or from a few years' sojourn in the West Indies were not as effective laborers as their descendants came to be a few generations later, they could be taught the comparatively simple operations involved in colonial agriculture, the supply was adequate, and they were comparatively cheap. In the tobacco and corn fields the slaves could be worked in gangs and readily supervised. They could be advantageously employed on the plantations the year around, and the women and children could be used as well as the men. Perhaps most decisive of all, they throve and multiplied, and they served for life and their children after them, thus giving planters reasonable assurance that their labor forces would not melt away. Restraints, therefore, were gradually broken down, and slavery eventually came to be firmly established in the tobacco belt.

[1] There is a difference of opinion among students as to the quality of these transported prisoners. See, for example, C. M. Andrews, *Colonial Folkways*, 190–194 (New Haven, 1919), and T. J. Wertenbaker, *The First Americans, 1607–1690*, p. 25 (New York, 1929).

For similar reasons, and without the preliminary indentured-servant stage, rice and indigo plantations with Negro slave labor developed in the eighteenth century in the Carolinas and Georgia. In the case of rice growing, an added inducement to employ slaves was that they stood the fevers of the swamps better than whites.

The New England Colonies were unable to utilize slave labor in their agriculture to any considerable extent. It was not because Puritan consciences would not permit; they did not gag at the African slave trade nor at selling captive Indians into slavery. Nor was it that more intelligent labor was required to grow wheat, corn, beans, and pumpkins in New England than corn, tobacco, rice, and indigo in the South; the Southern staples certainly required the greater care and skill. The fundamental reason was that, except in a few localities, New England farmers found no product for which there was a ready market. They had, perforce, to produce only for home consumption and for the very limited local markets. There was, therefore, little incentive for the New England farmer to enlarge the scale of his operations to what can be called plantation size. The members of the family, with extra help at the harvest season drawn from the fisherfolk and from the artisans of the towns and countryside, constituted an adequate labor force on the small farm. Producing little that was salable and, therefore, having little with which to buy, New England farm families were constrained to do much household manufacturing, and Negro slaves ere not so well adapted to that.

If they had been tempted to use it, New England farmers would have found Negro slave labor rather expensive, considering its low efficiency, because of the cost of shelter, fuel, and clothing during the winter months. The policies of land disposition initially adopted and long continued in the New England Colonies were less conducive to the accumulation of large holdings than were those of the Southern Colonies; but it is not unreasonable to suppose that this handicap would have been overcome if there had been strong inducements for individuals to acquire large holdings for farming purposes.

In connection with the reasons why New England farmers did not employ many slaves, it is an illuminating fact that neither did they use many white indentured servants. It is very illuminating also that the back-country districts of the South, being debarred from growing staples by inaccessibility to markets, had a rural economy quite similar to that of New England—with few plantations, little bound labor, and much household manufacturing.

The chief New England industries which produced for commercial markets and in which, therefore, there was an incentive to large-scale operations, were fishing, lumbering, and ship building; shipping also employed many men. It is almost obvious why Negro slaves could not be used advantageously in such occupations. They required chiefly strong men, and therefore complications concerning ownership of the women and children would have arisen. They were largely seasonal; and masters would have had difficulty in finding employment for their slaves in off seasons. The risks to life and limb were great; and slaves, unlike wage laborers, were capital and would have to be replaced by purchase. A large proportion of the workmen must be skilled and intelligent, as in fishing, at least, men could not be worked in gangs and closely supervised. Rude Africans could hardly be made into skilled artisans to work at the numerous handicrafts of prefactory days, so the chief employment of Negro slaves in New England was as menials; and the rich or well-to-do who could and would afford such servants were not numerous enough to utilize a large number.

The economy of the Middle Colonies was more like that of New England than that of the South, but there were districts which produced wheat or livestock for export, generally in the forms of flour or biscuit and salted meats. In such districts plantations developed, and a considerable number of slaves appeared, although not nearly so many as were to be found farther south. Quakers were numerous in Pennsylvania and New Jersey, and they had scruples, sometimes overcome, against holding slaves. These colonies were fortunate also in getting a large number of high-grade indentured servants from Germany.

For these reasons and perhaps others, indentured servants continued to be more numerous than slaves in the Middle Colonies throughout the eighteenth century.

The American Revolution, with its philosophy of equality and inalienable rights of life, liberty, and pursuit of happiness, brought a reaction against slavery. This reaction, together with the hostility of a growing class of wage earners to slave competition, was sufficient to bring about, within two decades, provision for either immediate or gradual emancipation of the slaves in all the Northern States and to dedicate the Old Northwest to freedom.[2]

It was one of the accidents with which history abounds that, after slavery had been abolished in the North, after a strong antislavery sentiment had developed, and after the likelihood that the institution should ever be reestablished was *nil*, industries developed there in which slaves could have been employed to advantage had they been available. They probably could have been used in the textile mills, which sprang up in great numbers as the industrial revolution came on. Such mills employed men, women, and children, and the operations did not require skill beyond the capacity of Negroes to acquire. The work was easily supervised, and the chances of loss by death or serious injury were not great. Whether slaves would have been used in textile factories is a different question. White free-labor was available and the choice between the two classes would have been determined by a variety of factors impossible to evaluate at this distance in time.[3]

As means of transportation improved and the growth of an industrial population expanded the home market for foodstuffs, Northern agriculture became more commercialized and specialized along the trade routes. Wheat came to be the chief market crop in extensive areas; corn and hogs were the staples in other

[2] In 1795, John Adams said: "Arguments might have some weight in the abolition of slavery in Massachusetts, but the real cause was the multiplication of labouring white people, who would no longer suffer the rich to employ these sable rivals as much to their injury."

[3] See p. 316–318 for suggestions.

localities. Slave labor might not have proved to be as well adapted to the production of such commodities as to the production of Southern staples.[4] For example, swinging cradles in the wheat harvest might have been pretty strenuous exercise for prime field hands, and apparently there would have been difficulty in finding suitable employment for slave women and children at some seasons of the year, but good soil, large yields, and fair prices might easily have offset such minor defects in adaptability. As it was, there was not a sufficient number of whites who would work for the wages which farmers could offer, and Negro slaves were not available at all; the plantation system was not developed, and the small farm prevailed. But there is no good reason to doubt that, if slaves had been available, they would have been utilized and plantations would have developed.

In the South the sentimental reaction against slavery caused by the Revolutionary philosophy coincided in time with a severe depression in the tobacco industry and the decline of indigo. Under the double impact, thousands of slaves were freed by their masters in Virginia and Maryland, and in spite of the social dangers involved in freeing so many still primitive people, these States might have followed the example of their Northern sisters had not the spectacular development of the cotton-growing industry and the slightly less spectacular development of the sugar-growing industry intervened.

The causes for the rise of the cotton-growing industry have often been well told. The development of labor-saving machinery for spinning and weaving in England and elsewhere lowered the prices of cotton goods and thus stimulated the demand for them. Further improvements made it practicable to utilize short-staple cotton as well as long in manufacturing cloth. Eli Whitney's famous invention made it possible to gin short-staple cotton at a small fraction of the cost of ginning by hand and thus to grow such cotton in America profitably at a price manufacturers could afford to pay. Reduction in the cost of the raw material still further reduced the prices of cotton goods,

[4] See F. L. Olmsted, *A Journey in the Back Country*, 2:103 ff. (New York, 1907) for interesting contemporary speculations on this point.

stimulating the demand for them and, therefore, in turn, for raw cotton. Only a few localities in the South were adapted to long-staple cotton, but vast areas were as well adapted to the short-staple variety as any regions on the globe. Land, the section's resources yet untaxed, remained cheap. Cotton had a high value in proportion to bulk, and the South had numerous navigable rivers on which it could be floated to the sea; so the staple could stand the cost of transportation to distant markets even before railroads penetrated the interior. As production increased prices fell, but they were seldom so low that people forsook cotton for other crops. Thanks to improved gins and plows and to the substitution of the mule and the horse for the slow-moving ox, production costs fell somewhat also. Prices and production fluctuated widely, making the industry highly speculative; but this feature perhaps repelled few. Finally cotton growing could utilize slave labor.

If ever any industry was made to order for Negro slavery, cotton growing was. It occupied the slaves a large portion of the year as well, if not better, than tobacco culture, and on farms and plantations the interstices could easily be filled in with other necessary and not unprofitable tasks. Cotton growing could utilize men, women, and children of all abilities and skills, the dullest and slowest as well as the quickest and most intelligent. Although it lent itself well to the gang system and to supervision, a large force was not essential. The cotton belt, except for a few localities, was about as healthy as any other part of the Lower South; and cotton growing could not be termed a dangerous occupation.

The sugar industry developed rapidly after Etienne de Boré had demonstrated on his Louisiana plantation during 1794–95 that sugar could be grown profitably in that region. On account of the vagaries of the weather, production fluctuated widely from season to season, making the industry even more speculative than cotton growing, but frequently the profits were large. The industry remained confined almost exclusively to lower Louisiana.

Sugar growing was not quite so well adapted to slavery as

cotton. It required a larger proportion of grown men in the gangs. Health conditions were not as good in the sugar belt as in most parts of the cotton belt. For various reasons, especially the cost of sugar-making machinery and of leveeing, it was a large-scale industry; the small slaveholder could not engage in it. But it met most of the qualifications for the profitable use of slaves. And because it was a large-scale industry, sugar planters did not, as did cotton and tobacco planters, have any direct competition from small farmers.

The cotton-growing industry, reenforced by the sugar industry, eventually employed an absolute majority of all the slaves in the country and provided the chief market for slaves that were sold.

After the American Revolution the tobacco-growing industry, which had employed the bulk of the slaves in Colonial days, did not again enjoy real prosperity until the 1850's. Thousands of planters removed with their slaves from the tobacco to the cotton belt. Slave prices were always higher in the cotton and sugar areas than in the tobacco areas with the result that most of the slaves sold in the latter were bought up by traders who took them to the Lower South. This traffic, indeed, reached such proportions that the abolitionists charged Virginians and others with breeding slaves for sale. This charge, which was strongly resented, was not true in the literal sense, but, no doubt, the money received from the sale of surplus slaves enabled many a tobacco planter, who otherwise must have removed from the tobacco belt or given up slaveholding altogether, to go on year after year holding slaves and raising tobacco. In general, if all the natural increase of the slave population of the tobacco States had had to remain there, the tobacco industry could not have absorbed them, and, unless other commercialized industries which could utilize slaves in sufficient numbers had then sprung up, the surplus slaves would have been emancipated. It was, therefore, principally the prosperity of cotton growing which maintained slavery as a vigorous institution in the border slave States.

The rice industry grew steadily and utilized an increasing

number of slaves, and hemp was a product of slave labor in various localities. Household service, in town and country, continued to absorb a considerable portion of the slave population.

As time went by there developed in the South other industries or occupations which demanded labor bond or free; steamboats were operated, loaded, and unloaded, and railroads were built and operated. A number of cotton factories sprang up, especially in the Carolinas and Georgia, and there were saw mills, flour and grist mills, iron works, car shops, and tobacco factories. Nearly all of the handicrafts of the time were followed to a greater or less extent in the slaveholding States, where they competed for labor against agriculture and domestic service, and attracted some slave labor. Slaves were owned or hired in considerable numbers by artisans. Many a master hired out his slaves to railroad contractors or went in person with his gang to work at railway grading, and occasionally a railroad company would buy slaves for construction and maintenance work. The Virginia tobacco factories and iron works, and at least one cotton factory, the Saluda, in South Carolina, successfully employed Negro slaves for several years. There was a protracted debate in Southern journals as to whether they could be successfully utilized in factories and, if not, whether other labor could be found, that is, whether the section could have an industrial revolution or not.[5]

In general as time passed the class of white and, to a less extent, free-Negro wage-labor grew, by immigration, transfer from agriculture, and otherwise, and gradually took over a larger proportion of such jobs, especially the ones requiring skill, while the slaves were more and more concentrated in staple agriculture and domestic service. During the 1850's the slave population of Baltimore, St. Louis, New Orleans, and Charleston actually

[5] Kathleen Bruce, *Virginia Iron Manufacture in the Slave Era*, ch. 6 (New York and London, 1931); C. H. Wesley, *Negro Labor in the United States, 1850–1925*, ch. 1 (New York, 1927); U. B. Phillips, *American Negro Slavery*, 375–378 (New York, 1918); Robert R. Russel, *Economic Aspects of Southern Sectionalism, 1840–1861*, ch. 2, "Movement for the Diversification of Industry, 1840–1852," p. 33–64 (Urbana, Ill., 1923).

declined although those cities, except Charleston, were growing rapidly, while in a number of other towns, including Richmond, Savannah, Augusta, Memphis, Nashville, and Mobile, the slave population declined relatively to the white.

The reasons for this partial displacement were various. Slaves could not be so advantageously employed in some of the occupations indicated as in agriculture. In some cases the character of the industry would practically necessitate hiring labor instead of owning it,—because the work was seasonal or required quite unnatural proportions of men, women, or children, and slaveowners were loath to entrust their valuable slaves to the care of those whose interest would be to exploit them to the limit. Some trades demanded more skill than Negroes could readily acquire. The newly organized manufacturing and railroad companies had trouble enough in raising capital for construction and equipment without saddling themselves with debts incurred in buying hands. In some of the employments concerned, the risks of loss of slaves by accident or disease were great; free laborers usually bore their own risks. As towns grew and Negroes became more sophisticated, it became increasingly difficult to control slaves. White labor was becoming class conscious and demanding the exclusion of slaves from various employments in which whites commonly engaged.[6]

The chief reasons why slaves retained almost a monopoly of domestic service even in the towns were the disinclination of free-born whites to do menial tasks and the preference of employers for servants who would remain in their service more permanently than the average hired domestic.

For various reasons a free-labor class did not develop as rapidly in agricultural as in nonagricultural pursuits. White free labor had greater relative advantages over Negro slave labor in the latter than in the former and, therefore, as long as there was not enough for both, naturally gravitated into the nonagricultural employments,—always excepting domestic service. The

[6] Wesley, *Negro Labor in the United States*, ch. 3; Bruce, *Virginia Iron Manufacture in the Slave Era*, 236-237; Russel, *Economic Aspects of Southern Sectionalism*, 53, 218-220.

skill required was usually greater than in agriculture and consequently wages tended to be higher. The towns had social attractions. Immigration from the North and from Europe largely entered at the seaports and tended to stay there. In the towns the varied nature of industry made it more practicable to provide separate tasks or distinctions in tasks for whites and Negroes and thus enable the whites to avoid feeling that they were doing slaves' work.

In the towns, with their denser population and more varied industry, employers could employ free labor and be reasonably assured of constantly having a supply available. In the rural districts, however, with their sparser population, planters hesitated to dispose of slaves and engage wage labor because they did not feel assured of being able to fill vacancies that were certain to arise. In other words, until there should be a large free-labor class in the country, planters would fear to rely upon it, and this fear would, in turn, prevent the class from developing. The story is told of a sugar planter who, becoming disgusted with slave labor, sold all his slaves and hired German and Irish immigrants in their stead. During the first grinding season they struck for double wages, and the planter went back to slaves.[7]

In the rural South it was still too easy for freemen to become independent farmers for any large number to seek work for wages. During the last decade before the War between the States, Southern agriculture was so prosperous that, in spite of the shift of slaves from town to country, demand greatly outran supply. Prices of slaves soared to unheard of heights; smuggling from Africa was renewed; and agitation began for a repeal of the laws against the foreign slave trade (an agitation inspired in part by other than economic motives, to be sure). A large number of small white farmers increased their production of staples, but yet few whites, "poor" or otherwise, entered Southern agriculture as wage earners.

If slavery could have been maintained in the South until the growth of population and scarcity of land caused a large number of white people of good quality to work for wages on farms and plantations, then, according to all the signs, employers would

[7] Phillips, *American Negro Slavery*, 337.

have preferred the white wage-labor. And if, in such a case, a surplus of labor had developed, slaves would have been set free, presumably, to shift for themselves.

But, as has been so often remarked, although still frequently overlooked, the displacement of Negro slaves by white wage earners in any branch of industry did not, or would not, prove that free labor in general was superior to slave labor; it only proved that white labor of a certain quality was superior to Negro labor of a certain quality in a particular branch of industry.

The statement has frequently been made that Southern slave-owners would have been well advised at some time before 1861 to free their slaves and hire the freedmen back for wages. The proposal is manifestly absurd if made applicable to a period before the Negroes had been in America long enough to acquire the white men's ways and want to live like them and not run off to the woods and swamps or join the Indians. But even for later periods, if considered only in its economic aspects, and if it is not assumed that the slaveholders should have foreseen that persistence in slavery would lead to war and a long train of consequences, the suggestion does not seem wise. In the country districts the freedmen, like the whites, would have desired to become independent farmers, and, unless land ownership or leaseholding had been denied them (something we have no right to assume), at least the more capable and enterprising would have succeeded. The masters would, therefore, have had a smaller labor force to exploit for their own advantage, and furthermore, those Negroes who had to earn their living by working for wages would in all probability have been less effective workers as freemen than they had been as slaves.[8] The average Negro would have been content with a lower standard of living and, consequently, would not have worked as regularly. He would have been sick or ailing more frequently and would have lost considerable time during the intervals between quitting his old jobs and finding new ones.

[8] M. B. Hammond, *The Cotton Industry; An Essay in American Economic History*, 186 (New York, 1897); U. B. Phillips, "The Economics of Slave Labor in the South," *The South in the Building of the Nation*, 5:121 (Richmond, Va., 1910).

These conclusions seem to have been borne out by experience after the slaves were actually freed. The planters tried to continue their plantations substituting wage labor for slave, but the experiment failed, and they were forced to divide their landholdings into small farms, which were rented out to white or Negro tenants, usually on a crop-share system. Only as time passed and land values increased, have the landowners been able to make better bargains with their tenants, and, in the case of Negro tenants especially, to exercise such a degree of supervision over them as to restore some of the advantages of the old plantation system. If the slaves had been freed in more propitious times, not in a country half-devastated by war and with ill feeling between the races augmented by the events of the reconstruction period, things might not have worked out in just the same way, but it is unlikely that the result would have been substantially different.

Negro slavery was introduced into this country to meet a demand for labor which could not be met as satisfactorily in any other manner. It was long maintained for various reasons but chiefly because it continued to satisfy the demand for labor, caused by the continued scarcity of free white wage-earners. The introduction and perpetuation of Negro slavery do not prove that free whites were less effective workers than Negro slaves.

It has often been asserted that, had it not been for the War between the States and consequent abolition, slavery would soon have died out anyway because of economic inadequacy. If the analysis presented in this article is at all sound, this common judgment requires much qualification. If the fate of Negro slavery had been left to be determined solely by the economic interest of the master class, it is not likely that it would have died a natural death for a long time.[9] But the fate of the institution, even barring forces exercised from outside the slaveholding States, would not have been determined solely by the self-interest of the masters.

It is, of course, impossible to tell just what would have happened if something else had not occurred, but certain tendencies

[9] Cf. L. C. Gray, *History of Agriculture in the Southern United States to 1860*, 476 (Washington, 1933).

are reasonably clear. Southern society was not static. A free-labor class was growing and was becoming increasingly class conscious and hostile to slave-labor competition in one trade after another. As means of transportation improved, a larger and larger part of the small-farmer class would have been drawn into commercialized agriculture, and, losing hope of acquiring slaves, would have become more antagonistic to the planters. As means of transportation and communication developed, population became denser, and towns larger and more numerous, the Negroes themselves would have grown more sophisticated, less satisfied with their status, and more difficult to control as slaves. As the slaves became more and more concentrated in the cotton and sugar belts, greater areas in the South would have become "abolitionized." All of these "internal" dangers to the peculiar institution were recognized before the War by the master class and thoroughly canvassed. There are strong grounds for believing that one of the most impelling motives to secession was the desire of the slaveholding class to shake off the external threats against slavery in order to be better able to cope with internal dangers.

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THE BEGINNINGS OF THE APPLE INDUSTRY IN OREGON

ORIGIN AND DISSEMINATION OF THE APPLE

The apple, often called the king of fruits, is one of the oldest, most widely grown, and most important of fruits. Though the original home of the apple is not definitely known, it is most indigenous to the region south of the Caucasus.[1] It has been cultivated in Europe for thousands of years. Charred remains have been found among the prehistoric lake-dwellings of Switzerland. The Greeks and the Romans carried it to all parts of Europe, from the Caspian Sea to the Atlantic Ocean.[2] From Europe the apple was carried to America by French, English, Dutch, and German settlers. The dissemination of the apple on the North American continent kept pace with the progress of land settlement. Settlers from the Atlantic seaboard took the cultivated varieties of the apple to the Middle West, and the Middle Westerners in turn carried them to the Pacific coast.

At the present time apples are among the most common and popular fruits of the world. Though some apples are grown in semi-tropical countries at higher elevations, the largest production is in temperate countries located between the thirtieth and fiftieth parallels of the northern and southern hemispheres.

[1] Alphonse de Candolle, *Origin of Cultivated Plants*, 233–236 (London, 1884); S. A. Beach, *Apples of New York*, 1:3 (Albany, 1905).

[2] The climate of the Mediterranean region is too warm for apples, hence it is unknown to what extent the apple of Homeric society resembled our Russets, Greenings, or Pippins. Some believe that the apple disputed by Hera, Aphrodite, and Athena was a quince. It is not certain whether the ancient Hebrews were acquainted with the apple. "It is a late Latin tradition that the tree in Paradise whose fruit was forbidden was an apple-tree; Greek tradition says it was a fig-tree, and that its leaves enabled Adam and Eve to cover their nakedness; Jewish Rabbinical tradition speaks of it as a vine."—Alfred Bertholet, *History of Hebrew Civilization*, tr. by A. K. Dallas, 182 (London, 1926). Cf. *Proverbs*, 25:11; Plinius, Secundus, *History of the World*, tr. by P. Holland, book 15, ch. 16, p. 437–440 (London, 1634).

Thirty-five percent of the world's apple acreage and production is carried on in the United States,[3] and there is not a single State that does not produce some apples. It is customary to divide the apple-producing areas of the United States as follows: the barreled-apple district which includes the entire United States east of Colorado, and the boxed-apple district consisting of Washington, Oregon, Idaho, California, Montana, and Colorado. The Pacific Northwest, namely, Washington, Oregon, and Idaho, is rapidly becoming the Nation's greatest apple-producing center.[4]

SUITABILITY OF NORTHWESTERN SOIL AND CLIMATE

The Pacific Northwest, which is blessed with soils and climatic conditions most favorable to fruit growing, may be divided into three main horticultural districts: the coast, the inland valleys, and the inland uplands.[5] The coast district embraces the sections of Oregon, Washington, and lower British Columbia west of the Cascade Mountains. Its heavy rainfall and mild equable

[3] The world area in cultivated apples in 1932 was 6,940,000 acres planted with about 415,000,000 trees, yielding a yearly average of 550,000,000 bushels. Thirty-five percent of the world's acreage and crop were in the United States. The rest of acreage and crop production were distributed as follows: France, 10½ acreage and 12.5 production; Russia, 14 and 9; Germany, 10½ and 8; Poland, 3 and 5; Canada, 3 and 2.4; England and Wales, 2.2 of the crop; Switzerland, 2.5 of the crop; Rumania, 2.5 of the crop. See A. C. Edwards, "World Apple Production and Trade," U. S. Department of Agriculture, Bureau of Agricultural Economics, Foreign Agricultural Service Division, *Report F. S. 57*, p. 3, 7 (September 1932).

[4] The most important barreled-apple States are: New York, Virginia, West Virginia, Pennsylvania, Maine, Massachusetts, Michigan, Illinois, Missouri, Ohio, and Arkansas. Georgia packed its apples in boxes. While the production of apples in the barreled districts has been declining for the past fifteen years, the production in the boxed districts is still increasing. During the ten years 1922–1931 the barreled districts produced 56 percent of the commercial apple crop and the boxed apple district produced 44 percent of the crop. *Ibid.*, 18.

[5] The Pacific Northwest includes Oregon with 95,274 square miles and Washington with 89,180 square miles. The horticultural conditions of Idaho resemble those of eastern Oregon and Washington. British Columbia is also sometimes included in this region. For a scientific discussion of the soils of the region, see S. W. Fletcher, "A Sketch of Fruit-Growing in the Pacific Northwest," Oregon State Board of Horticulture, *Biennial Report* (1903–1904) 8:175–189. Hereafter, cited as *O. S. B. H. B. R.*

marine climate promote the rapid growth of trees, and are especially suited to the cultivation of the Italian prune and sweet cherry. The inland-valleys region includes the territory east of the Cascades. It is an extensive rolling plateau of valleys and uplands ranging in altitude from 300 to 1,000 feet, with a rainfall of from 4 to 10 inches annually, and a Continental climate. The fruit growers in this region are specialists and have perfected the apple industry to an extent unknown elsewhere. The warm cloudless summers and the cool winters give the apples a high color and a keeping quality which are extremely important commercial assets. The inland uplands are situated in an altitude of from 1,000 to 3,000 feet and have an annual rainfall of only 12 to 25 inches. The scanty rainfall and the bright weather are responsible for the excellent color, flavor, and keeping quality of its winter apples.

Oregon with its 10,000 square miles of land capable of producing fruits of excellent quality may be divided into three sections: the northwest, the southwest, and the east. The northwest section, encompassing the fertile Willamette Valley and consisting of millions of acres of basalt soil at the foothills and alluvial soil in the bottom land coupled with the moisture-laden air and equable climate, is most suitable for the prune, cherry, peach, apple, pear, and smaller fruits. Here the cherry reaches perfection. The Italian prune of this region is larger and of quality superior to the French prune of California. The apple grows in great profusion in the Willamette Valley where it revels in the cool breezes from the Pacific Ocean and the abundant sunshine of the summer months. But the Willamette apple does not keep as well as that grown in other sections of the State. The favorable climate and the rich decomposed granite soils of the Rogue and Umpqua valleys in the southwest section combine to make it a great fruit-growing region suitable for the pear, prune, peach, grape, and apple. The cold winters and the summer sunshine of eastern Oregon are favorable to the best and most hardy apples. The apples of the Hood River country and the Grande Ronde Valley grow to greater perfection as to size,

color, and flavor than anywhere in the State and perhaps in the world.[6]

EARLY HISTORY IN OREGON

The first orchard of cultivated apples and other fruits in the Pacific Northwest was planted about 1827 at Fort Vancouver where the Vancouver barracks are located today.[7] It was reported that the apples for the pie which was served to President Franklin D. Roosevelt when he visited in Portland on August 3, 1934 came from a scrubby looking apple tree, the oldest in the Northwest, planted by Dr. John McLoughlin of the Hudson's Bay Company.

The story of commercial orchards in the Pacific Northwest, however, begins with the coming of the early American settlers in the forties.[8] Some of the pioneers who dreamed of planting

[6] For discussion of the soils of Oregon, see G. W. Shaw, "The Soils of Oregon," *ibid.* (1891–1892) 2:119–138; *ibid.* (1893–1894) 3:78–92; C. I. Lewis, "Orchard Management," Oregon Agricultural Experiment Station *Bulletin 111*, p. 3–8 (September 1911). See also B. S. Pague, "The Weather: Its Relation to Fruit Interests," *O. S. B. H. B. R.* (1897–1898) 5:447–450. The best section for apples is from Hood River in Oregon, along the Columbia River up to the Snake River to and beyond Lewiston and Clarkston and from the confluence of the Snake with the Columbia northerly from Priest Rapids and Wenatchee, to the junction of the Okanogan and Columbia rivers, thence up the Okanogan, to and beyond the international boundary and up the Columbia River from the mouth of the Okanogan to and beyond Kettle Falls.

[7] According to accounts by McLoughlin and other pioneers the following romantic circumstances led to the planting of that orchard. At a dinner given in London in 1824 in honor of Captain Simpson and his men who were about to depart for coast service in the Pacific Northwest, one of the ladies at the table dropped some apple seeds from the dessert into the captain's waistcoat pocket and bade him in jest to plant them upon his arrival in the wilderness of the Pacific Northwest. When dining at Fort Vancouver some time later, the captain discovered the seeds in the pocket of the same waistcoat and presented them to the Hudson's Bay Company's expert gardener, James Bryce, who planted them carefully on the grounds of the Fort. The orchard prospered. Narcissa Whitman, "A Journey across the Plains in 1836," *Oregon Pioneer* . . . (Portland, 1893). Oregon Pioneer Association, *Transactions* (1891) 21:63; H. H. Bancroft, *History of the Northwest Coast*, 2:441 (San Francisco, 1884); F. V. Holman, *Dr. John McLoughlin*, 28, 181 (Cleveland, 1907).

[8] For a list of indigenous fruits in Oregon, see J. R. Cardwell, *Brief History of Early Horticulture in Oregon*, 3 (n.p., 1906). This pamphlet was originally printed in the reports of the Oregon State Board of Horticulture. Cardwell was one of the pioneer fruit growers in Oregon. The Indians enjoyed the fine crabapples and berries which grew wild in Oregon.

orchards in the distant Oregon Country carried seeds and grafted trees on their overland journey. The distinction of being called the father of the Oregon fruit industry goes to Henderson Luelling who with his family undertook the long six-months journey from Salem, Iowa to Oregon with his celebrated "traveling nursery." It consisted of two boxes 12 inches deep filled with a composite of charcoal and earth in which were packed some seven hundred vines, shrubs, and grafted trees from 20 inches to 4 feet in height. The trees represented the standard varieties of apples, pears, peaches, plums, grapes, and cherries then grown in Iowa.[9] The boxes were fitted into a wagon bed which was drawn by oxen in charge of Luelling. To keep the trees alive throughout the long journey, it was necessary to water them every day. According to Luelling's daughter, Eliza, her father gave more care to the trees than he did to his family. "Whether any one had water or not the trees must be watered." Some tried to discourage Luelling from trying to draw a heavy load across the plains and over the mountains, but he was determined to continue with his nursery. When his train arrived at The Dalles about the first of October, the trees were taken out of the boxes, wrapped in cloth, and loaded on wagons which were in turn placed on boats and sent down the Columbia River.[10] In 1848, near the townsite of Milwaukie, 6 miles south of Portland, Luelling planted the first orchard of grafted fruit trees in the Pacific Northwest. Alongside of the orchard, he

[9] The list of names of the trees given by Alfred Luelling to George H. Himes is as follows: *summer apples*,—Sweet June, Red Astrachan, Golden Sweet, Summer Pearmain, Summer Bellflower; *autumn apples*,—Gravenstein, Red Cheek Pippin, Seek-no-Further, Rambo, King of Tompkins County; *winter apples*,—Golden Russet, Yellow Bellflower, Baldwin, Lady Apple, White Pearmain, Northern Spy, Esopus Spitzenberg, Winesap, Yellow Newtown Pippin, Jenneting, Tulpehocken. G. H. Himes, "Historical Sketch of the Society," Oregon State Horticultural Society, Twenty-fifth Annual Meeting, *Proceedings and Papers*, 1910:95. This organization is hereafter cited as *O. S. H. S.*

[10] The history of the Luelling family and the story of the overland journey is found in the letters by Alfred Luelling, the younger son of Henderson Luelling, and compiled by Jane Luelling. A typewritten copy of the manuscript is found in the library of Oregon State College. See also O. A. Garretson, "The Lewelling Family—Pioneers," *Iowa Journal of History and Politics*, 27:548-563 (October 1929).

and his friend William Meek established the Luelling-Meek nursery, the first of its kind in the region, which became the mother of Oregon nurseries. It has been said that the Luelling load of trees brought more wealth to Oregon than any ship that ever entered the Columbia River. To its owner it brought a fortune; Luelling himself said that it returned " 'a dollar a drop for the sweat I lost in getting the necessary water to keep them alive while we crossed the desert; and their luscious fruit repaid me many times over for the jeers, ridicule and contentions of my comrades.' "[11]

By 1853 the Luelling-Meek firm had organized four branch nurseries in various parts of Oregon. The orchards and nurseries were successful. In the fifties the fruit commanded fabulous prices locally and in California. The first box of apples sold in Portland by Luelling returned a net profit of $75.00. Sometimes a single apple sold for as much as $5.00. Esopus Spitzenburgs of average size sold at seventy-five cents apiece in 1853. Fruit-hungry Californians were the best customers. In 1853 Henderson Luelling took a load of apples to San Francisco and sold them at $2.00 a pound. Five hundred bushels of apples, shipped from Oregon to California in 1845, returned a net profit of from $1.50 to $2.00 a pound. In 1855 the profit on a shipment of 6,000 bushels of apples was from $20.00 to $30.00 a bushel. In 1856 the shipments to California amounted to 20,000 boxes. From this time until 1869, the bimonthly fall and winter shipments to San Francisco by steamer averaged from 3,000 to 6,000 boxes.[12]

The high prices obtained for the Oregon fruits gave great impetus to orchard planting. Many an Oregonian turned orchardist with the result that a large number of small fruit farms were started. Since there were no insects or pests to combat,

[11] Quoted by E. R. Lake, "The Apple in Oregon," *O. S. B. H. B. R.* (1903–1904) 8:107–108.

[12] E. R. Lake, "The Apple in Oregon," Oregon Agricultural Experiment Station, *Bulletin 81*, p. 7 (July 1904); J. R. Cardwell, "Report of the President," *O. S. B. H. B. R.* (1889–90) 1:14; Seth Lewelling, "Horticulture in Early Days," *ibid.* (1891–1892) 2:242–245; John Minto, "Early Horticulture in Oregon," *ibid.* (1899–1900) 6:174.

the fruits thrived. Visitors in the fifties and sixties marveled at the beautiful apples. The vigorous trees were overburdened with golden and crimson fruit. Baldwins and Winesaps seemed to predominate. Many stories were told about the size and beauty of the apples of this period which earned for Oregon the enviable sobriquet, "The land of the big red apples."[13] The apple crop played an important part in the prosperity of Oregon in the fifties and sixties.

LOW EBB OF FRUIT INDUSTRY IN EIGHTIES

The rapid increase in the supply and the curtailed demand resulted in an inevitable drastic drop in prices. In the seventies and eighties Oregon not only lost the California market but began to experience the competition of California fruits, even in its own markets.[14] California began to ship in apples, pears, prunes, grapes, and berries which ripened earlier than the Oregon crops, and the local fruit growers began to feel the lack of accessible markets for their fruits. Moreover, with the California fruits came insects and pests.[15] Depressed prices and destructive pests led to neglect of the orchards: fences decayed; lichens gave the trees the appearance of decrepitude; and the fruit fell to the ground and rotted, thus producing breeding grounds for such pests as the green and wooly aphis, the codling moth, and the San Jose scale. The Oregon apple industry was at low ebb during the eighties and early nineties.

[13] Various accounts in the reports of the Oregon State Board of Horticulture tell of the wonders of early Oregon apples.

[14] In a way the fruit industry of California antedated that of Oregon. The first cultivated fruits on the Pacific coast were planted by the padres at the missions in the last quarter of the eighteenth century. These mission apple, pear, apricot, plum, and orange trees were grown from seed brought from Mexico. Edward J. Wickson, *The California Fruits and How to Grow Them*, 45–51 (San Francisco, 1910); Rexford Newcomb, *The Old Mission Churches and Historic Houses of California*, 56–57, 171, 238–300 (Philadelphia and London, 1925).

[15] The fungus growth was detected first. The warm moist climate of western Oregon is not unfavorable to fungus. In the late fifties scab and bitter spot were noticed on apples. The codling moth was detected in a box of apples from California. Soon it infested the orchards of the Willamette Valley. J. A. Varney, "Report of the Inspector of Fruit Pests," *O. S. B. H. B. R.* (1889–90) 1:21–36; J. R. Cardwell, "Early Horticultural Days in Oregon," *O. S. H. S.*, Twenty-fourth Annual Meeting, *Proceedings and Papers*, 1909:69.

To combat the fruit pests and develop markets for their crops, the fruit growers organized the Oregon State Horticultural Society in 1885, which has contributed much to the study of horticultural problems and the creation of a spirit of cooperation.[16] In 1886 it raised the warning against the spread of orchard pests. In 1889 it succeeded in having the Legislature create a State board of horticulture. Under this law the State was divided into five horticultural districts, with a commissioner for each district and one for the State at large. The inspectors were to visit infested orchards and nurseries, point out the pests, and suggest remedies for their control.[17] The board was also to collect and publish information relating to horticulture in the State.[18]

These two horticultural organizations also concentrated their attention upon the problem of markets for Oregon fruits. The fruit growers who once believed that Oregon alone possessed the climate and soil necessary to the successful culture of prunes, apples, cherries, and berries, began to realize that the entire Pacific coast could grow all of these fruits. But it was California which proved to be the greatest competitor. With characteristic

[16] The first successful attempt to organize the Oregon fruit growers and nurserymen took place in 1858 when at the recommendation of the editor of the *Oregon Farmer* a number of the leading horticulturists held a convention at Salem in October 1858 and organized the Fruit-growers' Association. Its membership included some of the leading pioneers in the industry. The organization was short-lived, merging in 1860 into the newly founded State Agricultural Society. For the constitution of the Oregon State Horticultural Society, see *O. S. B. H. B. R.* (1891–1892) 2:109–113. See also Himes, "Historical Sketch of the Society," 97–98.

[17] The law creating the board is found in the *O. S. B. H. B. R.* (1889–90) 1:6–9. The first district was to comprise the counties of Multnomah, Clackamas, Yamhill, Washington, Columbia, Clatsop, and Tillamook; the second, Marion, Polk, Benton, Linn, and Lane; the third, Douglas, Jackson, Klamath, Josephine, Coos, Curry, and Lake; the fourth, Wasco, Morrow, Gilliam, and Crook; the fifth, Umatilla, Union, Baker, Wallowa, Malheur, and Grant.

[18] The work and publications of the board were of such fine quality that they received a great deal of favorable comment not only in the United States but in Canada, England, Germany, Australia, and Japan. The fifth and sixth biennial reports, published in 1898 and 1900, received the highest award at the Pan American Exposition held at Buffalo in 1901—a gold medal in competition with reports from many other States. The sixth report was used as reference at the University of Minnesota and at Cornell. See *O. S. B. H. B. R.* (1901–02) 7:64.

push and energy the "Golden State," assisted by transportation agencies, staged a great campaign to advertise and expand its fruit industry. Californians organized a marketing system for their fruits and established trade relations with Eastern markets. They also induced the railroads to aid rapid transit between San Francisco and the large Eastern markets. Although the market was glutted in 1891, California continued to increase the fruit acreage, arguing that because the well-settled regions of the United States lacked the necessary climatic conditions, it was destined to become the fruit basket of the country. So well did California advertise its fruits that American fruit in European markets was often advertised on printed placards as American or California apples.[19]

Oregonians were determined to emulate California. "It is time for the Northwest to be up and doing in this direction; we have the soil and the climate, let us exercise California's push and energy," argued the more energetic horticulturists. In the campaign to advertise their fruit much was said about the gentle breezes and prolific soil of Oregon, and the size and quality of its fruit. Writers pointed out that their State had the natural advantages for a fruit country: soil light enough to produce the best peaches; soil heavy enough for the choicest pears; and soil and climates most suitable for the finest apples, prunes, and cherries. "The truth is," asserted J. R. Cardwell in his report as president of the State Board of Horticulture, "that there is no district, or soil, or climate in Oregon, from the snow line of its mountain peaks to the sand beach of the Pacific Ocean, that will not, under intelligent management, produce fine fruits." The enthusiasts continued the argument: "In view of these natural conditions and facilities of the transcontinental railroads, the Columbia River and the ocean highways, and prospective isthmian canal, Oregon is exceptionally favorably situated and in the near future ought to rival all other fruit-growing countries." In the illustrated advertisements, Oregon was pictured as the "land of the red apples," and of the giant, luscious Black Republican, Bing, and Lambert cherries. One of these adver-

[19] A. T. Hawley, "Markets for Northwest Fruits," *ibid.* (1891–1892) 2:285-296.

tisements pictured a boy in the act of taking a second bite from a large Oregon cherry, the first bite having made only a slight impression in the fruit.[20]

To better advertise its fruit, Oregon participated in several national expositions and the results were highly flattering. At the Centennial Exposition at Philadelphia in 1876 Oregon fruits attracted considerable attention. Many people who scarcely knew of Oregon greatly admired the superior size, color, and flavor of the fruit which had been transported thousands of miles. "The apples of Oregon," said the judges of the Exposition, ". . . surprise by their large dimensions. Usually fruit loses somewhat in flavor with an increase of size in these far Western States; but the apples of Oregon are exceptions to this rule." A great deal of interest was taken in a "cluster of 'Clapp's Favorite,' [pears] containing six large and handsome specimens; an evidence of the remarkable fruitfulness of that variety." Medals and diplomas were awarded for Oregon cherries "of remarkable size and excellent flavor," apples, "twelve kinds . . . of remarkable excellence in color, flavor, and size," and "four varieties of superior prunes . . . [illustrating] how well the State of Oregon is adapted to their culture." The judges declared that Oregon was entitled to the premium for the best sweepstake apple, but because the plate had been mislabeled Winesap instead of Rome Beauty, it lost the right to this award.[21]

Even greater success was enjoyed by the Oregon exhibit at the Columbian Exposition at Chicago in 1893. Though Oregon did not display as many varieties as some of the older States, the fruit was larger, cleaner, and superior in color. Also the fact that the fruit remained on the tables in good condition longer than the other exhibits was considered proof that Oregon possessed superior climate and soil for the production of fruit. A

[20] President Cardwell's "Report" to the Legislature in *ibid.* (1889-90) 1:3-4, (1891-1892) 2:19; C. H. Carey, *History of Oregon*, 803-804, note 19 (Chicago and Portland, 1922).

[21] See the Report of Dr. J. G. Lewis, general superintendent of the Oregon World's Fair Exhibit, in *O. S. B. H. B. R.* (1893-1894) 3:178-179. For Dr. Cardwell's report see *ibid.*, 10. U. S. Centennial Commission, *Reports and Awards*, Group 36, p. 3, 16, 23, 31 (Philadelphia, 1878).

frequent question from many of the visiting thousands was: "Did all this nice fruit grow in Oregon?" The elongated shape of many varieties of Oregon apples attracted considerable attention. Many specimens were donated to the Government and agricultural colleges throughout the world for use in preparing wax models for exhibitions. At this world fair, Oregon received 2 grand prizes, which were the highest awards, 17 gold medals, 34 silver medals, and 21 diplomas of honorable mention. Besides, the Oregon exhibit was highly praised by some of the leading American and foreign horticulturists and a number of horticultural societies.[22]

Similar success was enjoyed by the Oregon fruit exhibit at the Trans-Mississippi Exposition at Omaha in 1898, where 5 gold medals, which were the highest awards, 11 silver medals, 16 bronze medals, and 23 diplomas of honorable mention were received. Some thought that the Oregon Royal Ann cherries were crab apples while the Black Republican and Bing cherries were taken for plums. Great admiration was expressed for the size of the Oregon peaches, apples, and pears.[23]

A still better showing was made by the Oregon fruit exhibit at the Pan-American Exposition at Buffalo in 1901. The horticultural hall at this exposition contained more fruit than had been exhibited at previous expositions. The 250 plates from Oregon seemed a small number in comparison with Missouri's 12,000, Wisconsin's 16,000, and New York's 2,000. Nevertheless Oregon was awarded 18 gold medals, the highest awards, 18 silver medals, 51 bronze medals, and 22 diplomas of honorable mention. What gratified the Oregonians most was the coveted Wilder Medal "for excellence of flavor, form, perfection, and

[22] *Ibid.*

[23] "The thousands of people to whom we gave our fresh cherries, strawberries, prunes, apricots, peaches, pears, and apples, and who went into ecstacies over their size and flavor, will not be satisfied hereafter with the insipid, small, sour fruits supplied to them heretofore, but will surely clamor for them again, and compel their dealers to supply them with Oregon fruits." This opinion was expressed by Commissioner Henry E. Dosch. *O. S. B. H. B. R.* (1897–1898) 5:109–113.

general superiority," awarded by the American Pomological Society.[24]

The horticultural exhibits of Oregon continued to capture many awards at succeeding expositions. At the South Carolina Interstate and West Indian Exposition held at Charleston in 1901 and 1902, the Oregon exhibit received 34 gold medals for highest awards, 14 silver medals, and 1 bronze medal. At the Louisiana Purchase Exposition at St. Louis in 1904, Oregon was awarded 2 grand prizes as highest awards, 7 gold medals, 84 silver medals, and 34 bronze medals.[25]

REVIVAL OF THE APPLE INDUSTRY

The splendid displays of fruits at the various expositions, where tons of fruit were distributed to the visitors, helped advertise the Oregon horticultural products. The advent of three transcontinental railway lines enabled Oregon to ship its fruits to the Eastern markets. Signs bearing the legends "Oregon apples," "Oregon pears," "Oregon cherries," "Oregon peaches" could be seen displayed in the East where Oregon apples and pears commanded the highest prices.

These added markets for Oregon apples and other fruit naturally gave great impetus to fruit growing. While the apple crop declined in the barrel States, it constantly increased in the Northwest.[26] In 1900, Oregon had about 16,500 acres planted in

[24] *Ibid.* (1901–1902) 7:254–256. It was a proud day for Oregon, reported Henry E. Dosch, when Oregon received the Wilder medal. "The praise of the Oregon fruit exhibit will be sung and published, not alone in America and Canada, but in England, France and Germany, and will do a missionary work at one stroke that years of advertising could not accomplish." A list of medals awarded to Oregon fruit growers is given on page 256. The Oregon apple display so fascinated Von Arnim, the caterer of the Waldorf Astoria, that he offered to buy a supply at any price. See *ibid.* (1903–1904) 8:333.

[25] J. R. Cardwell, "A Brief History of Pomology in Oregon," American Pomological Society, *Proceedings* (1913) 33:100–101 (April 1914).

[26] There were comparatively few orchards in the United States that grew apples on a commercial scale before 1840. Most of the fruit grown was for home consumption, and the surplus was marketed by the farmer to the consumer. But the rapid growth of city population and the increase in wages and wealth in the United States during the period following the Civil War resulted in a rapid in-

apples totaling about 2,000,000 trees.[27] Throughout the State, especially in the southern and eastern districts, new plantings came up constantly. Both crops and prices were satisfactory. In 1900, the apple crop of the United States was exceedingly heavy, yet Oregon apple growers received most satisfactory prices for their fancy fruit.[28] The harvest of 1901 was the most remunerative in the history of the State, aggregating in value $2,375,000.[29] In 1906, the harvest amounted to $2,789,160.[30] The 1907 crop of 1,082,200 boxes was valued at $1,423,800. In the following year 1,300,000 boxes brought $1,225,000, Newtowns selling at $2.75 a box and fancy Spitzenburgs at $3.27 a box.[31] The year 1909 was not a prosperous one for the apple growers, but the following year was again unusually remunerative as the apple income amounted to about $2,000,000.[32]

Beginning of the Apple Export

Oregon fruit also began to make a favorable impression in foreign markets. To seek these outlets, the secretary of the State Board of Horticulture corresponded with the United States consuls in different parts of the world, inquiring about

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crease in the demand for apples. The demand stimulated production. A veritable boom in apple planting took place in all States adapted to apples, particularly in Illinois and Michigan. In 1900 there were about two hundred million growing apple trees in the United States, but around 1897 the decrease in production started. The statistics showing this decrease are found in *Better Fruit*, 5 (5):25 (November 1910).

[27] *O. S. B. H. B. R.* (1899–1900) 6:133. The total acreage of fruits in Oregon in 1900 amounted to about 53,300 acres apportioned as follows: apples, 16,500; pears, 2,100; prunes, 27,000; cherries, 1,200; peaches, 1,800; mixed, 4,700. The acreage and crop is given according to district in *ibid.*, 132.

[28] *Ibid.*, 28.

[29] *Ibid.* (1901–1902) 7:17.

[30] For a detailed estimate of the 1906 crop, see *ibid.* (1905–1906) 9:16–17. The estimates of the value of the apple crop for other years are as follows: 1902, about $789,000; 1903, $640,000; 1904, $935,000 (while the value of prunes dropped to $362,500). From this time on, horticultural experts held that the apple was to be the staple fruit produced in Oregon. See statistics in *ibid.* (1903–1904) 8:47.

[31] *Ibid.* (1906–1908) 10:10, 17. The total value of the fruit crop for 1907 amounted to $4,275,185.

[32] *O. S. H. S.*, Twenty-fifth Annual Meeting, *Proceedings and Papers*, 1910:15.

the prospects of exporting Oregon apples to their localities. The results of this survey were published and made accessible to Oregon orchardists.[33] In 1897 a wide-awake fruit grower in southern Oregon sent a few boxes of apples to England. The experiment proved a great success.

The first shipments of Oregon apples to Europe aroused considerable interest at home and abroad. Commenting on the shipments of 1897 and 1898 the New York *Journal of Commerce* stated that the boxes of handsome Newtown Pippins from Oregon that passed through New York excited no little interest in that city.[34] The reports of the American consuls in European cities, where Oregon apples were sold, were most enthusiastic and encouraging. The consul at Glasgow wrote: "In a lot of apples received from Oregon and on sale in this city were found placards on which was printed 'Rogue river valley apples, from the orchard of C. Kleinhammer, Phoenix, Oregon'." The consul also stated that finer fruit had never been exhibited in Glasgow and dealers wanted to secure the output for another year. Consul Cunningham of Chemnitz, Germany, wrote: "I wish I had time to detail to you the desire of the people here for our fruit." Consul Hugo Henzelman of Praha wrote: " 'If only you could find a way by which your fruit could be gotten into this market here, . . . you would be surprised at the quantity that could be sold here'."[35]

In 1900 a commission house at Portland sent a carload of

[33] *O. S. B. H. B. R.* (1899-1900) 6:95. The exports of American apples to England began during the Colonial period. In 1758 Benjamin Franklin received a package of Newtown Pippins. American apples began to supply the English markets more regularly in later years. During the fiscal year ending Sept. 30, 1791, the United States exported to England 12,352 barrels of apples valued at $12,352. In 1821, the treasurer reported the export of 68,443 bushels of apples valued at $39,986. For 1880-1885, the annual average was 1,412,940 bushels. *Better Fruit*, 10 (1):7 (July 1915); R. G. Phillips, "Apple Export Situation," *American Fruit Grower*, 56 (1):5-7, 30 (January 1936).

[34] *Journal of Commerce*, Dec. 23, 1898, quoted in *O. S. B. H. B. R.* (1897-1898) 5:111-112. The shipments for 1897-1898 were: November 1897,—London, 4,800 boxes, Liverpool, 900 boxes; November 1898,—London, 23,800, Liverpool, 20,300, Glasgow, 2,500; December 1897,—London, 10,800, Liverpool, 8,500, Glasgow, 2,000; December 1898 (15 days),—London, 12,200, Liverpool, 18,100, Glasgow, 3,400.

[35] *O. S. B. H. B. R.* (1897-1898) 5:112, (1899-1900) 6:111-112.

southern Oregon Newtown Pippins to Hamburg which sold for $3.65 a box. So impressed were the Hamburg merchants with this first shipment of fancy Oregon apples, that a commission merchant arrived in Portland to make arrangements for further shipments to Germany. These shipments were followed up very closely by various Oregon growers and soon established a profitable fruit trade with European countries, particularly England and Germany.

In 1900 some 265 carloads of southeastern Oregon Newtowns and Jonathans were shipped to England and Germany where they netted the grower $1.00 per box of 45 pounds, f.o.b. shipping station. During the first decade of the twentieth century the apple shipments to these countries became an important factor in the apple industry. The English and the German dealers and consumers were convinced that apples from the Pacific Northwest were superior to those of any other country or district.[36] They were especially prized for dessert purposes. Due partly to tradition and partly to their preference for a juicy apple, the British were partial to Yellow Newtowns, which were sometimes called "Salt Water apples."[37] The Germans, on the other hand, preferred the red varieties.

[36] The exports of boxed apples via New York as given in *Better Fruit*, 1 (5): 13 (November 1906), with Bremen, Havre, and "various" omitted, were:

	Liverpool	*London*	*Glasgow*	*Hamburg*	*Hull*	*Total*
1899–1900	58,992	70,724	13,118	1,925	4,826	149,515
1900–1901	61,602	107,752	22,415	1,325	7,000	200,094
1901–1902	109,715	153,653	20,449	2,929	9,681	296,427
1902–1903	69,020	126,730	11,722	488	4,629	212,587
1903–1904	107,260	188,643	24,302	23,486	19,814	388,975
1904–1905	17,154	32,254	24,484			87,321
1905–1906	131,172	196,516	24,067	14,938	20,657	415,740

The Northwestern Fruit Exchange sold 200,000 boxes in Europe in 1912. *O. S. H. S., Annual Report* (1913) 5:121. During the 1910–1911 season, 1,106,610 boxes of apples were exported to Europe, but in 1911–1912, the number dropped to 587,035 boxes. For detailed statistics, see *Better Fruit*, 7 (5):14–20 (November 1912).

[37] The importance of the English market for American apples may be seen from the following statistics: In 1905 the United Kingdom imported $10,325,965 worth of apples, and the United States supplied $4,684,340 worth. In 1907 the

Northwestern apple growers also turned their attention to markets in other parts of the world. In 1912, Sidney, Australia imported 61,000 cases of apples from the United States, 49,400 boxes being from Washington and 11,600 from California. There is no record that any fresh fruit was received from Oregon. The principal apple import into Argentina was from the box districts, many being from Oregon, Washington, and California. Occasionally Northwestern apples were sold in Brazil as "California goods." Owing to superior flavor and ability to withstand climatic conditions, the Northwestern apples were most popular in Cuba. Hood River Valley shipped cars of apples to Mexico, Alaska, and Vladivostock.[38]

The Northwest considered the Far Eastern countries its special field. Attempts were made to ship apples to China, Japan, Siberia, and the Philippine Islands. Northwesterners felt confident that when the four hundred million Chinese, the forty million Japanese, and the millions of the other Orientals increased their purchasing power they would absorb the entire supply of second and third grade apples.

Status, 1900–1910

The apple industry of Oregon which began to assume commercial importance in a small way about 1900 progressed rapidly and satisfactorily from the point of view of quality, quantity, and price. Hood River Valley growers were convinced that their apples were definitely superior, unexcelled in flavor, unequalled in beauty, and unsurpassed in keeping quality. With the in-

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United Kingdom imported $11,156,635 worth of apples, of which the United States supplied $4,299,100 worth. In 1905 nearly the entire output of eastern and southern Oregon Newtowns and Jonathans, some 235 carloads were shipped to England and Germany and distributed as follows: Liverpool, 72,000 boxes; London, 27,000 boxes; Glasgow, 4,800 boxes; Manchester, 4,200 boxes; Hamburg, 18,000 boxes; various points, 15,000 boxes. These apples netted the growers $1.50 f.o.b. shipping station. *O. S. H. S., Annual Report* (1919) 11:42.

[38] The Chinese appetite for apples was strong but their sense of smell and taste did not make distinctions between different qualities. Oregon apples were sent to Vladivostock and Nagasaki. *O. S. B. H. B. R.* (1899–1900) 6:114–115; (1903–1904) 8:187.

creasing demand for apples in the United States due to the increase in population and the greater appreciation of fruit in the daily diet, with the expansion of the old foreign markets which were already importing about 7 percent of the American commercial apple crop, and with the establishment of new foreign markets, Oregon fruit growers believed that the future outlook for their product was most promising. From time to time there were planting booms, for it was believed that the industry could not be overdone.[39] A large number of Easterners who had heard the alluring stories of the big red apple and the great opportunity to make money from this fruit came to the Northwest to purchase or plant orchards.

The superiority of Oregon and the Northwest as an apple-growing region was admitted by many Eastern horticultural experts who had studied the situation. The distinguishing features of the apple industry in the Northwest were specialization, high culture, careful grading and tasty packing, organization, and an aggressive quest for domestic and foreign markets.[40]

Specialization became a marked tendency in the fruit-growing industry of the Northwest. Over 93 percent of all the trees planted in the Hood River Valley were Yellow Newtown Pippins and Spitzenburgs. In the Puyallup Valley of Washington, the great bulk of the fruit grown was blackberries and raspberries. The same tendency toward specialization was noticed in other sections of the Northwest. The reasons were largely economic. Dealers could not be interested in a few boxes of each kind of fruit, hence the grower was forced to seek a market in neighboring towns where the consuming capacity was limited and the price consequently low. When the Northwestern growers began to specialize in the kinds most suitable to existing conditions, they could then produce a particular type of fruit in sufficient quantities to ship in carload lots to distant markets at favorable rates. Moreover, dealers were interested in handling large quantities of any product. The production of large quan-

[39] Many articles in *Better Fruit* from 1906 to 1912 express this opinion. See 2 (2):21 (August 1907); 2 (9):23, 28 (March 1908).

[40] See Fletcher, "Sketch of Fruit-Growing."

tities of a single variety also made it easier to advertise the fruit and to establish its reputation throughout the country. The well-advertised Hood River Valley apples acquired a reputation and brought favorable returns to their growers.

A second feature of Northwestern fruit growing has been the emphasis on high culture. Realizing that the markets for their products were distant and that a large portion of the selling price went for freight rates, the growers found that it would pay to ship long distances only "the best that can be grown under the best culture." Hence, their orchards were, as a rule, better tilled, better pruned, and more thoroughly sprayed than most of the orchards in the East, with the result that the Pacific coast growers secured not only a better fruit but also a higher average yield. The Northwestern fruit growers also found that careful grading and attractive packing made as favorable an impression on the customer as did the quality of the fruit. Emphasis was placed on absolute uniformity in the size and quality of the fruit in each package. Hood River growers claimed the credit for revolutionizing the packing of apples; instead of being barreled, they were packed in boxes, each containing a bushel of fruit.

It has been stated that the packing of fruit in rows and layers originated in the Mediterranean countries, particularly in Sicily. The package was used to make handling easier and to minimize space for those fruits shipped to distant markets such as London. The first attempt at packing fruit in rows and layers in boxes occurred in Oregon and Southern California. During the fifties the Oregonians sent their apples to California in large boxes with iron drops. In the seventies the Californians packed their oranges and peaches in regular order in boxes. When the Northwest began to ship fruit to Eastern markets, 3,000 miles away, the growers developed a uniform style of packing. Due to the fact that all fruit at that time was hauled from the packing houses to the shipping point in old-fashioned wagons, the growers devised a box of such size that three could be laid side by side across the width of the wagon box. The dimensions of the apple box finally adopted were $11\frac{1}{2}$ inches wide, 18 inches long, and $10\frac{1}{2}$

inches deep. The packing of apples of uniform size throughout the box causes the apples in each successive layer to rest properly in the pocket formed by the apples in the layer beneath. In 1902 Yakima started wrapping each apple in paper, and soon all high-grade fruit in the Northwest was wrapped in this way. Later the best Hood River apples were wrapped in oil paper to reduce or prevent damage from scald in cold-storage transit.

Only absolutely perfect apples were allowed to be sold, and no grower was permitted to pack his own fruit. The work was done by professional packers who went from place to place and packed the apples of the entire section. Each size of apple was graded and packed separately, and the boxes were then stamped with the name of the grower and the packer and the number of apples it contained. This method established confidence among buyers.

During the first decade of the twentieth century, Northwestern fruit growers were filled with enthusiasm and optimism. The meetings of their horticultural societies and fruit growers' associations were full of "snap and vim." Plans were being discussed for further organization of the industry and for the development of domestic and foreign markets.[41]

Hood River Valley is credited with making the first display of fruits in boxes on a large scale. In 1902, the display at Hood River was about 300 boxes, in 1904, about 600 boxes, in 1906, about 800 boxes, and in 1908 and 1909, about two carloads. But the credit for staging the first apple show on a national basis belongs to Spokane. In 1908, ten carloads of apples were placed on exhibition. The following year sixteen carloads of apples were on display. Soon Montana, Colorado, California, and British Columbia began to hold apple shows. It was hoped that all these displays would help advertise the Pacific coast apples.

To any warning that the apple industry of the Northwest might be overdone, the answer was that other sections of the country could not produce apples like those of the Pacific Northwest and that the supply of fruit so unexcelled in size, color, and flavor could not equal the demand. Hood River growers claimed

[41] *Better Fruit*, 5 (4):54 (October 1910).

that their Spitzenburgs reached the tables of the millionaires in the East and their Newtown Pippins found their way to the wealthy classes and to the royalty of Europe where they sold for as much as $7.20 a box. They boasted that even Queen Victoria was a patron of Hood River apples.

On the whole, the apple industry in the Northwest during the years from 1900 to 1912 was in the planting and developing stage. The demand was large, prices were high, and a spirit of optimism prevailed.[42] However, even during this period leaders of the horticultural industry in the Northwest well realized that the future of apple growing in the region depended not only on the production of quantity and quality but much more on the way in which the marketing problems were solved. One of these troublesome problems was the question of transportation from the Pacific coast to Eastern and European centers of consumption.

The Transportation Problem

The Eastern apple growers, with whom the Northwestern growers had to compete, had the advantage of being nearer such centers of consumption as New York, Philadelphia, Baltimore, and Boston. In addition to shorter hauls, a point of advantage in shipping perishable products, the Easterners had not only more adequate transportation facilities but cheaper rates as well. The average selling price of an Eastern barrel of apples was only $1.50 at its shipping point while it cost the Northwestern grower fifty cents a bushel or $1.50 a barrel for mere transportation to the Eastern markets. Thus, situated as they are at a great distance from the centers of consumption, the large Eastern cities upon which they must depend for the disposal of their constantly increasing apple crop, Northwestern growers realized that in spite of the quality of their fruit they were greatly handicapped as compared with the Eastern and Middle Western producers. The high cost of transportation created an obstacle in the effort to expand the consuming markets, for it meant

[42] C. I. Lewis, "Co-operation in the Pacific Northwest," *American Fruit Grower*, 41 (2):7 (February 1921).

prohibitive prices to the consumers thus preventing the great masses from purchasing Northwestern fruit. The first great problem in connection with marketing was how to reduce transportation costs.

The question of cheaper and more adequate transportation for fruit has been uppermost at Northwestern horticultural meetings from the beginning of the industry. Pacific coast fruit growers were ardent champions of an isthmian canal. At the Nicaragua canal convention at New Orleans in 1892 the representative from Oregon, Henry E. Dosch, a pioneer horticulturist, pleaded eloquently for the construction of an interoceanic canal, claiming that such a link was an imperative necessity for the Northwest. He pointed out that such a canal would reduce the distance and transportation costs from the Pacific coast to various Eastern, Southern, and foreign markets, and thus open them to Oregon and Pacific coast products. He assured the assembly that Oregon could produce the best apples, pears, and prunes, and that with cheapened freight rates the Pacific coast would convert thousands of acres into orchards and fill the markets with delicious fruits and wines.[43]

Oregon also championed ardently the construction of the Panama Canal. In newspapers and public meetings it was asserted that the canal would be a bright star in the future of the apple industry of the Northwest and the salvation of the entire Pacific coast. It was pointed out that Northwestern apple growers could not compete with the Eastern growers when the freight rate by rail was often more than the combined cost of production and profit. Moreover, the breaking of bulk and rehandling of fruit shipped to Europe by rail and steamer was not only expensive but injurious to such a perishable commodity. It was believed that the shipment of fruit through Panama in refrigerator vessels would reduce the cost of transportation from fifty cents to thirty cents a box to London or Liverpool. The lower cost of transportation would enable the Pacific coast to reduce the prices on their fruits, thus making it possible

[43] H. E. Dosch, "The Nicaragua Canal," *O. S. B. H. B. R.* (1893–1894) 3: 202–203.

for the masses to consume more of the fruit, and thereby enlarge the markets for the lower grades which were going to waste.[44]

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[44] *Better Fruit*, 5 (3):34 (September 1910); J. N. Teal, "Transportation by Water: Influence of the Panama Canal on Development of Oregon Horticulture," *O. S. H. S., Annual Report* (1911) 3:31–42; S. H. Bodinghouse, "The Influence of the Panama Canal on the Fruit Industry of the Northwest," in *ibid.*, 118; U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce, *Daily Consular and Trade Reports*, Feb. 25, 1913, p. 970–971; *Better Fruit*, 7 (9) (March 1913), this number is devoted exclusively to marketing; E. H. Shepard, "The Fruit Business of the Northwest," *ibid.*, 7 (3):20–23 (September 1912).

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